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Let's talk about games and xenophobia

Playing video games doesn't cause otherwise non-violent people to go on shooting sprees. Let's get that out of the way right off the bat. Video games no more cause

violence than action movies, violent TV shows, crime novels, *The Ballad of Billy the Kid*, *The Iliad*, or any other storytelling that contains violence. Your kid isn't going to go shoot up their school if you let them play *Call of Duty*.

Unfortunately, efforts to demonise video games in the wake of tragedies, and the spectre of hostile crusaders like Jack Thompson, have made conversations about how the stories we consume affect how we think almost impossible. Much as any attempt to apply standard critical apparatus to games causes an outcry unless the results are unequivocally positive, any discussion of the idea that games have any negative effect on our cognition or attitudes is taken as an attack on their very existence.

Some generations have a narrative form that helps define their identities, their self-conceptions, their values, and the references and metaphors they use to communicate. For the Greatest Generation, it was movies. For the boomers, it was TV. And for younger Gen Xers and millennials, it's video games.

The idea that the media that fuels a \$90 billion industry has no effect on its audience is absurd. The idea that people derive their identities from consuming that media, yet it has no influence on their attitudes, is ludicrous. The idea that the narratives we consume don't shape how we communicate, how we view others, and how we view ourselves, is ridiculous.

Shared cultural stories are incredibly powerful. Our brains are wired for story, and we have trouble understanding things if they're not in story form. Most legal systems involve a story Thunderdome of sorts, where competing narratives battle it out and the winner becomes the truth – truth with material, and sometimes fatal, consequences. Stories can rouse or pacify a population. Stories teach us values. Lest anyone doubt



JESSICA PRICE

Jessica Price is a producer, writer, and manager with over a decade of experience in triple-A, indie, and tabletop games.

#10




their potency, I'd ask: how many people over the course of history have structured their lives, lived, named children, killed, and died for the story of a man who died on a cross?

Our stories are powerful, and they can be extraordinarily powerful: the rational response to the economy, political environment, and looming climate catastrophe for millennials and those who come after us would probably be despair and helplessness. But we get involved, we vote, we act, and we keep going. We grew up with stories in which we could save the world, stories in which we weren't passive listeners, but active participants.

But when I wrestle with an industry that seems to have difficulty creating narrative games in which the central mechanic isn't combat, and in which a vast array of triple-A games demand that you take back what's yours, survive aliens and zombies, fight off invaders, expose outsiders who have corrupted your society, and so on, I look around at rising xenophobia and can't help wondering if these things reinforce one another.

I believe that like any shared cultural storytelling, video games shape and strengthen attitudes, how we see others, how we see our own responsibilities and opportunities, and how we interact with one another. They don't cause violence (and, in fact, there's correlation, if not causation, between video games and drops in violence – see wfmag.cc/vg-crime), but that doesn't mean they have no influence in where we point our violence, or how often we think of it as a solution to problems, and in what violence we support from governments and institutions.

The solution, of course, isn't censorship. It's discussion, and more importantly, it's variety. We shouldn't stop making combat-focused video games any more than we should stop making action movies or writing crime novels. But a world in which they weren't the overwhelming default might be a smarter, more creative, and more open-minded place. 

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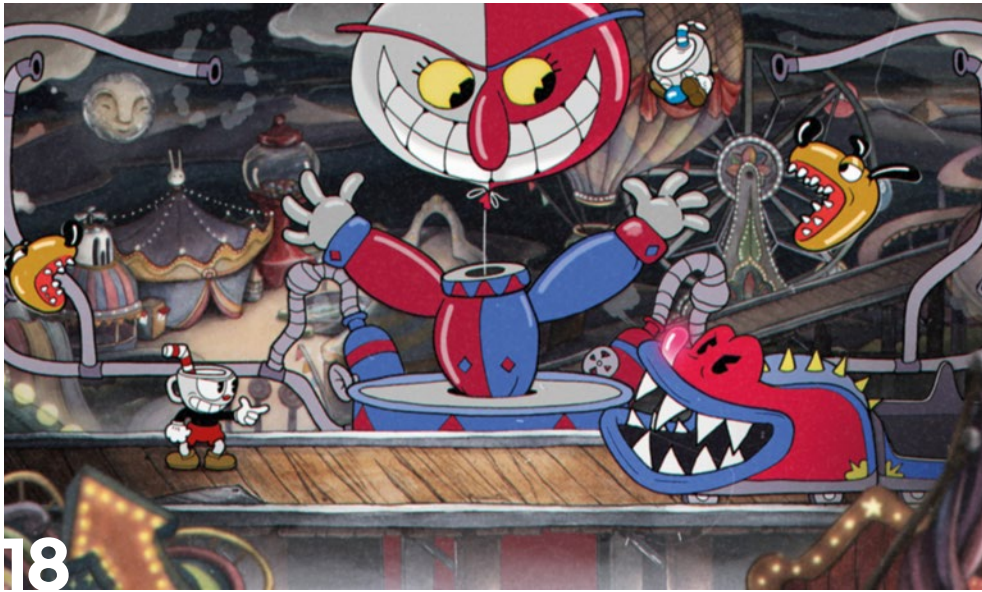
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A terrific block-pushing puzzler also pushes boundaries

WELCOME

If games feature archaeologists at all, then they're usually on the trail of a MacGuffin; how refreshing, then, that while there's a mystery to solve in *Heaven's Vault*, the game's more about understanding an alien language rather than raiding tombs. As archaeologist Aliya Elasra, it's your job to uncover an ancient civilisation's secrets by translating the hieroglyphs on its buildings and artefacts.

Brilliantly, though, there isn't one meaning to the phrases you encounter; an inscription on a goblet, for example, could be interpreted in a variety of ways, and your interpretation will have a cumulative effect on how you understand the language as a whole. As you'll discover on page six, the systems that underpin the game's language are mind-bogglingly complex, but they're in service of a game that expertly fuses linguistic puzzle-solving with its narrative.

Heaven's Vault also reflects the complexity of language in the real world. The meanings of words are constantly changing over time, and thanks to the web, words can now travel around the world more quickly than ever before. Inkle's game is a small reminder that words have power, and that the way we use and interpret them can have far-reaching consequences. You'll find a few phrases from Inkle's language to pore over in this edition, but the phrase below feels appropriate: in English, it simply reads, "Be excellent to each other." Enjoy the issue.

Ryan Lambie
Editor



آلمر أومر

Babel Fish

Heaven's Vault brings sci-fi archaeology to the fore, but can it translate to success?

Plenty of us are bad at languages. We try, sure, but we more often than not fail. So why not make a game out of it? *Heaven's Vault* isn't a simulation of vain attempts to remember year eight French, but it does bring core aspects from the experience of not understanding – and trying to – into an intriguing game-shaped form.

Players take direct control of protagonist Aliya Elasra – a first for Inkle Studios, with *80 Days* and *Sorcery!* a more hands-off affair – as she investigates a missing roboticist and uncovers a deeper mystery. Along the way, Aliya is required to translate an ancient, unknown language written in hieroglyphic text – and here's the hook: these translations matter.

You don't press a button to 'win' the translation; consideration of the facts you know, the context, the history of the world has to be taken on. You are the one left to actually crack on with some classic Rosetta Stone-ing and, brilliantly, you're never a hundred percent sure if you're right or wrong, with your approach directly impacting the narrative.

Surrounding this compelling mechanic is an open world to explore; a sci-fi setting of ancient moons, space rivers, and a robot companion. It's all sounding great, so we had a word with Inkle's co-founders, Jon Ingold and Joseph Humfrey, who provided us with some collaborative answers we didn't need to translate.

Heaven's Vault involves discovering and researching a brand new language. How did you go about creating it? What challenges did it throw up for you?

When we first began designing the Ancient language for *Heaven's Vault*, we weren't thinking of it as the core mechanic of the game. We'd imagined it is a light code-breaking activity within a wider adventure game, something to give it flavour. We'd imagined it being relatively simple, and light on design and UI requirements.

We had *no idea* what we were letting ourselves in for.

Our first prototypes weren't great. Languages are really complex; a blend of internal logic and completely arbitrary rules. So how does one turn that into gameplay that keeps the feeling of a language without becoming frustrating – and without just being a barrage of exposition?

It turned out that every aspect of the language game was something we needed to design carefully, from scratch.

The hardest problem was the unlock curve. We wanted the language to be something you explored and deepened your understanding of, rather like the puzzles in *The Witness* – where you guess rules, and refine them as you get more examples to work with. Only in a game with a story, time should always be moving forwards. Backtracking to review old puzzles is always a bit frustrating, but if your plot has momentum, it can be deadly.

But we were finding the language puzzles required a perfect balance – too many words you knew in a phrase and there was nothing to do; too few, and there was nothing you could do!

So here we did end up with a procedural solution. When you find an inscription in the world, the script provides a list of phrases that would fit the object, location, and time period. The game then chooses the one that provides the best challenge for where you are in the story, based on what you've seen before. The result is you can visit any part of any location in the story in any order, and still get a finely tuned puzzle that grows across the course of the game.

And that's worked out really well, because it means by the end of the game we can confidently throw really long



Translation relies on what you know, and context is often key.



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“It’s not that the translations can be wrong, but that they can often be righter”

making space for failure to be interesting,
not culling it.

If you're going around the world in *80 Days* and take 150 days due to disaster and disease, you've had a great story. If you explore the ruins of the Nebula in *Heaven's Vault* and come up with conflicting theories for what an ancient place was, then now you have a mystery – something interesting to think about.

That lack of failure on the phrases you translate in *Heaven's Vault* – and the way we don't mark translations as correct, either – is key to the whole game. It's what turns it from a collection of Sudokus into an evolving narrative that you're constantly understanding in deeper and deeper layers. It's the core of the storytelling: it's what makes what you did before matter to what you're doing now. And it also makes the language we've created more genuine. There's no such thing as a single true translation of a phrase of Sumerian, or Egyptian, or French.

So – it's not that the translations can be wrong, but that they can often be righter.

Has the move to a more sci-fi setting compared to previous titles changed your approach to anything? If so, how?

We've tried to be so careful with the science-fiction! It's so easy to just start inventing crazy things and never stop, and end up with something that doesn't make a lot of sense – and for a game all about figuring out culture and history, it's got to make sense.

When we were first outlining the world of the Nebula, we had two rules: the first and most important was 'no aliens', the second was 'one technology, with lots of consequences'. From those pillars it's been a long process of world-building; one that makes sense while still being intriguing to explore. ➡

inscriptions at players and know that whichever ones they end up seeing, they'll have a chance of making some progress with. And it's also given us an unexpected win, which is our New Game+ mode; where if you replay the game you get to keep the language dictionary from the first playthrough, and every puzzle across the entire game levels itself up automatically!

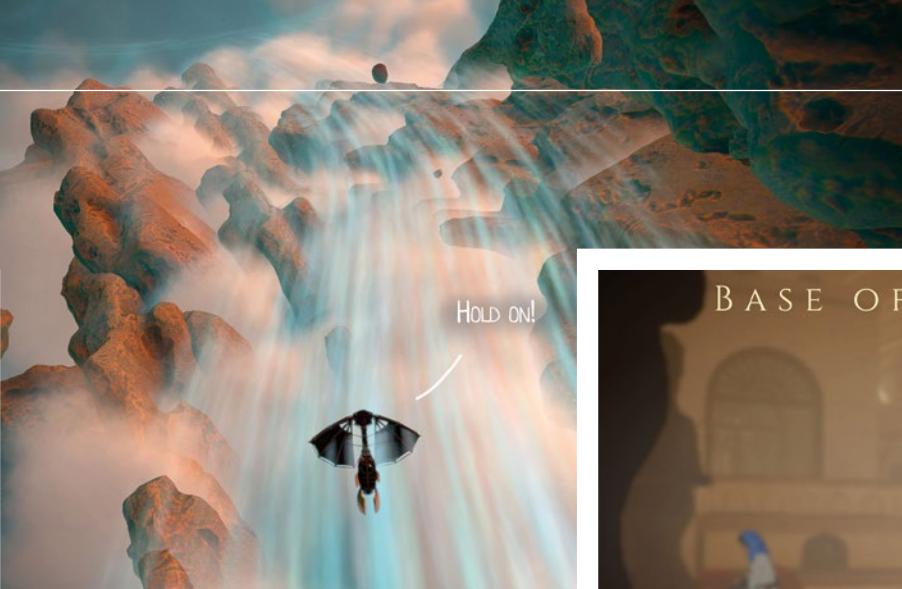
Translations can be wrong, but the player doesn't meet a fail state for being incorrect. How important is it to allow people to fail?

Failure is one of the hardest problems in narrative games. What happens when you fail? Do you start over and repeat what you've seen before? Do you keep going and lose a chunk of story?

But failure suggests there's something called success – as though there were one or two prescribed routes the story is supposed to go down. But aren't we making interactive stories? We should be

▲ This is Inkle's first title to feature direct control of the main character.





It's also not a programming language: there's very little structural punctuation to master, which is a small thing but again makes redrafting and editing faster. Cutting a line in half is as simple as editing a paragraph of text. More controversially, everything inside an ink story is global – any part of the story can query any other part of the story at any time – because in a story, nothing else makes sense.

But most importantly, it's very declarative. The core state tracking method is 'what content has been seen', giving you a stable way to test what's happened so far without declaring any variables at all. The core flow is what we call a 'weave' – a block of content which branches using, essentially, a bulleted list, and unless you say otherwise, rejoins itself once the list is done. The structure ensures that, by default, the story will always move forward whatever you do, so creating lots of branching can be done without any structural design or testing at all.

And meanwhile, the ceiling stays high. There are functions, variables, integrations with the game-code, nested sub-flow structures, and it's possible to write quite complex systems entirely in ink.

Ink is expressive, powerful, and very flexible. We love it, and over the last six years, we've been enjoying finding out how hard we can push it.

Whether ink is right for other devs or not depends on the needs of the project. Very adaptive text can be hard to localise, for instance, and not every project needs choices or dynamic strings. But we've found that we use it for everything – right down to our menu-screen dialogue boxes, which adapt based on how many times you've read them, or whether you've only just started the game, and so forth.



^ Systems behind the scenes make sure translations are challenging, but appropriate to the player's ability.

80 Days and Sorcery! enjoy critical acclaim, and performed well, but flew under the radar of the mainstream.

How do you feel about this? Is 'breaking through' something you're bothered about?

We've always wanted our games to be accessible and playable by anyone: that's important to us. We didn't want to make games for people who already know and get interactive fiction; we also didn't want to make games where the narrative is plastered on over the top and doesn't tie into what the player is actually doing.

Game narratives are too often compromised by gameplay that wasn't originally designed to support narrative. We want to design gameplay that integrates and supports the narrative because when those two halves of a game work together the effect is awesome.

80 Days sold well enough for us to still be here, four years later, with a larger studio, and we're still really proud of it. Sorcery! was a huge amount of fun to create. Heaven's Vault has been hard, but is

turning into something special. Who knows what's next?

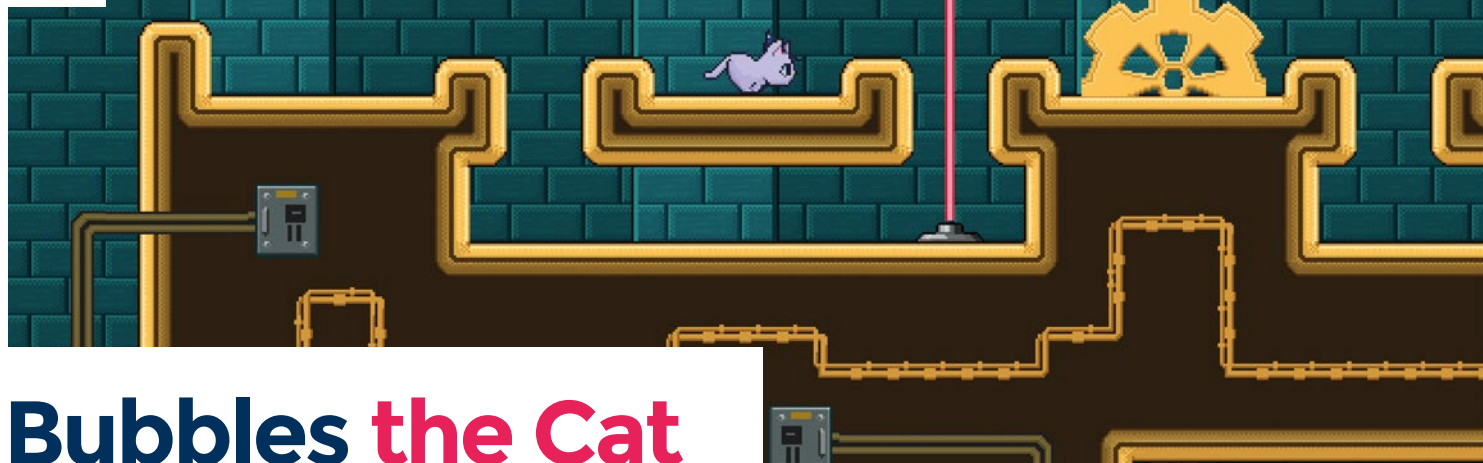
Finally, because we're literally asking everyone this now: are you going to implement a Battle Royale mode? We suggest it be called Harsh Language.

Definitely. We're pretty convinced that Battle Royale is the most exciting opportunity in interactive digital narrative right now, and we can't wait to bring Heaven's Vault to the massively multiplayer space. But we'll do the pinball table version first, if that sounds fair?

Heaven's Vault releases soon on PC and PS4. 🎮

✓ The Dyson robo-helper. He's bagless!





Bubbles the Cat

Looking for the mew kid on the block

Info

GENRE
Platformer

FORMAT
PC / Android / iOS

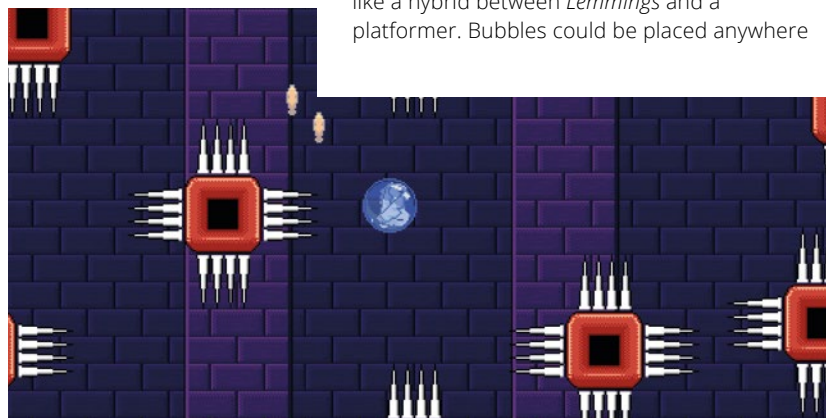
DEVELOPER
Team Cats & Bears

PUBLISHER
Team Cats & Bears

RELEASE
April

▲ Wallbank was a big fan of the 16-bit *Sonic the Hedgehog* games and wanted to recreate the satisfaction of nailing that perfect run.

▼ Nine lives not enough? Turn invincibility on and off as you please.



Created by Team Cats & Bears, the one-man studio that is Leamington Spa-based developer Johnny Wallbank, *Bubbles the Cat* is about to bounce its way into your life. Shown off at new gaming event Interactive Futures, the one-button platformer is Wallbank's first foray into indie game development.

Bubbles (your feline protagonist) auto-runs and requires one-button guidance to jump for fishy treats. Pressing the button while in mid-air will create a magic bubble for Bubbles to bounce off, and by default, you get a maximum of six bubbles. When Bubbles touches the floor, the stock of bubbles is instantly replenished. As the game progresses, Bubbles will get some sweet power-ups including floating and blasting.

"The very loose brief I had given myself was 'single input game that has a cat,'" Wallbank explains. "The original concept was something like a hybrid between *Lemmings* and a platformer. Bubbles could be placed anywhere

in the game world and you could create sequences for the cat to jump on," he says. "While this had some advantages, like being able to interact with fireballs, it was surprisingly difficult to control. I got a lot of feedback from people indicating they either didn't get the game or they found it frustrating to control, as they'd be just slightly out with their bubble placement."

Wallbank initially built a few different prototypes for some quite different games. He made use of assets from sites such as opengameart.org and freesound.org; both things he recommends for quick prototyping. When he realised that making *Bubbles the Cat* a puzzle-platformer hybrid wasn't working, it marked an early cross-road in development. Wallbank had to choose between embracing either the puzzle or platformer aspect fully, eventually finding it significantly quicker to rework the game as a platformer. This led to a drastic improvement in terms of the in-game action and feedback, and shaped the game's ultimate direction. Today, there are over a hundred levels set across six worlds, and bonus secret levels designed to challenge even the most dedicated platform gamer.

"In addition to the game's simple control scheme," Wallbank says, "I added a 'Boost' system to help even out the playing field – you can customise your experience by turning on invincibility or removing the restriction on the number of bubbles that you are allowed to make at any time and it won't stop you from progressing through the game. It's worth noting that these systems are also great for people



^ Typical feline fun times include avoiding slime monsters, naturally.

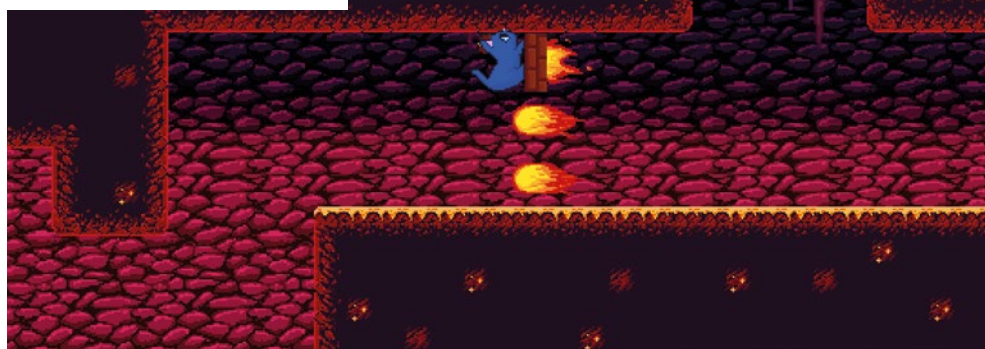
who are just getting into games. I hope these systems allow younger gamers to enjoy *Bubbles the Cat*, too."

Entering development of *Bubbles* in March of 2018, Wallbank had initially started in the games industry as a quality assurance tester at Codemasters, which eventually led to a game design role. He later joined Pixel Toys as a Lead Games Designer where he worked on mobile games and a VR title. "I found myself feeling hungry for a bit more responsibility, so I decided to go all-in on that front by doing my own thing," he says. "Previously, I'd worked solely as a designer, and while I would work with coders to implement features or artists to ensure that the visuals were matching up to what we'd expected for gameplay, I could leave a big chunk of development work up to them. Art direction at all my jobs in games studios had been handled by extremely talented and experienced experts."

Wallbank is solely responsible for *Bubbles the Cat*'s production, coding, and marketing while bringing artists on to the project. "While I'd been somewhat prepared for this," he says, "it's very important to note that this goes beyond just development work; there are other aspects of running a business that take up time, from more exciting propositions like making game trailers and talking to the press to mundane minutiae like tracking expenses."

Fortunately, he was able to rely on talented friends to help with the game's art and audio. As he explains, "The original electronic jazz-inspired soundtrack and the game's audio is done by Dan Parkes. I'd talked with him for a little while about making a game soundtrack and originally envisaged something chiptune-based but I much, much prefer what Dan came back to me with!"

✓ No mission is impawisible - the game's accessibility is part of the reason why the gameplay is so satisfying.



^ Tabby or not tabby, that is the question. Unlockable customisation options include hats, colours, and trails for Bubbles.

The game's pixel art was primarily handled by Mariana Alves, with some additional art by Alex Price. "I chose Mariana's art as it seemed clear from what she showed me that she understood the game and what I was hoping to do with it," Wallbank says. "That decision has been backed up by the number of people saying how cute the game looks. Alex is another friend who had time between contracting jobs to offer me a helping hand." Wallbank also gets a lot of playtesting feedback and development or business advice from his friends.

Bubbles the

Cat is resolutely microtransaction-free. Players are rewarded for in-game achievements with unlockable

customisation options such as hats, colours, and trails for their feline pal.

Initially coming to PC, with iOS and Android versions to follow soon after, Wallbank hopes to announce more platforms after the initial release. In the meantime, he regularly cuddles his cat Oscar to de-stress. "I hope players will feel a wholesome joy from playing the game," he says, "as well as a measure of satisfaction for conquering it. The later levels get pretty tricky, especially the bonus secret levels." 🐾



^ Players can obliterate walls, float through hazardous areas, or switch between dimensions, all through the means of a single input.



A-FUR-MATIVE ACTION

A big influence on Wallbank's decision to make *Bubbles the Cat* a one-button platformer right from the start was the work done by charities such as SpecialEffect. "Having done work with them previously, I've been able to see first-hand the differences they make to people's lives," Wallbank says. "They do fantastic work, not just in terms of creating bespoke controllers for gamers with disabilities, but also in raising awareness with the games industry on how they can make their games more accessible, and I very much wanted to be a part of that change."

Impossible objects

We catch up with the creators of *Reky*, a taxing yet relaxing puzzle game from Greece

Info

GENRE
Puzzler

FORMAT
iOS / Android / PC

DEVELOPER
Beyondthosehills

PUBLISHER
Beyondthosehills

RELEASE
TBC 2019

W

here so many games bombard our senses with intense detail, movement, and colour, *Reky* instead goes the other way; with its minimal aesthetic

and clean lines, it's a puzzler that favours clarity and elegance over technical whizzes and bangs. The aim is to guide a tiny bouncing ball around increasingly complex mazes of interconnecting paths – there are coloured blocks that can be manipulated to form bridges or elevators to higher levels, while portals provide shortcuts to unexpected places. In short, it's the perfect kind of experience to enjoy in lunch breaks or on train journeys.

There's a reason why the game has that pristine, M.C. Escher-esque look, too: the game's orthographic structures were dreamed up by a professional architect. Work on *Reky* began in 2015, when Athens-based developer Beyondthosehills – which comprises husband-and-wife team Andreas Dikytopoulos and Maria

Aloupi – began experimenting with some initial ideas for an abstract puzzle game. With a rough prototype put together in Unity, the pair turned to architect Konstantinos Sfikas to help create *Reky*'s distinctive layouts.

"First of all, we tried to create the concept art together with Konstantinos," Maria says of those early level designs. "So when we found the direction, Konstantinos started working in an architectural program; he took the levels from me one by one, and made the visuals for each."

Over the summer of 2018, the three designers sat together for a four-month bout of level creation: Maria would work out the placement of blocks, pathways, and portals, carefully plotting out the puzzles themselves, while Konstantinos worked on the background details that connect all the game elements into a unified structure.

"We both love design and architecture, and we tried to find someone who could be part of the team and help us with this idea," Andreas says. "So we found an architect, and he created all the architectural design of the game around the levels. Konstantinos does the real structures, and creates them in an architectural program. Then we put that inside the game engine, Unity, to create the final aesthetic."

"It's these architectural elements that give the player vital clues as to how the platforms and portals work. We had a prototype with the rules there, but it was difficult because if you don't have the whole surroundings the levels create, it's very tricky to understand what's taking place," Andreas explains. "It needs the illusions created by the orthographic camera."

✦ "We definitely want to go to other consoles," Andreas says. "That's the plan: to put it on as many platforms as we can."

✦ *Reky*'s architectural design isn't just for decoration: it helps guide the player through the increasingly complex knots of portals and paths.

rek4

MUSICAL BEGINNINGS

Before they founded their indie games studio in 2012, Maria and Andreas were in very different lines of work: Maria was a concert pianist, while Andreas was a software engineer and musician. The pair had previously founded a cultural venue that played host to contemporary art and music, but then the Greek financial crisis made them think about other ways they could pursue their creative interests.

"I decided to follow Andreas' idea, to develop games," Maria says. "Andreas is a musician but also a programmer – he has the technical background. I decided to follow this, not only because it can be a real business, but also because I found it very creative."

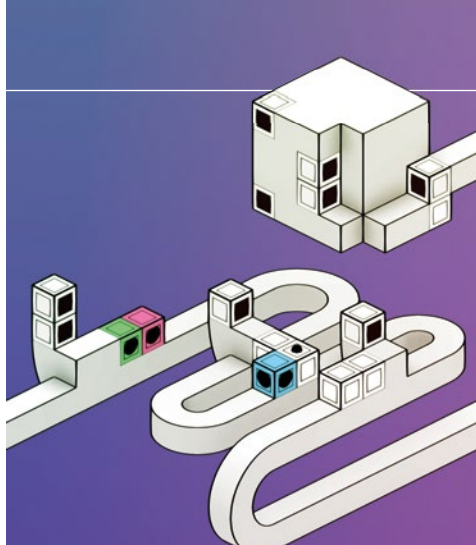
"I'd been building games since high school – some very simple text games, and stuff like that," Andreas adds. "I always wanted to make games; I saw the power of games as a medium. So at some point after seeing all these cultural things from different angles – classical music, contemporary music, art – we both understood that we wanted a medium that put all of this together."

Beyondthosehills' first game was quite ambitious for a fledgling developer: point-and-click adventure *The Minims* was set in a fantasy world of whimsical creatures and problems to solve, and took approximately two years to make.

"We learned a lot of things," Andreas says of his time working on *The Minims*. "In the end, we had to learn a lot of project management stuff that we needed to complete the game. One of the other things we learned is that we didn't know anything about marketing, which is one of the reasons why it's not so well-known, even though we had some very good reviews on App Store."

➤ More levels are planned as DLC after release, which will also add new mechanics to the game.

"I always wanted to make games; I saw the power of games as a medium"



▲ "We wanted to do a puzzle game, but something more abstract," Andreas says of *Reky*'s early development.

"We've learned that we have to be good at a lot of things, not only development," Maria agrees. "Marketing or finding a publisher is really important. We're trying to do better the second time."

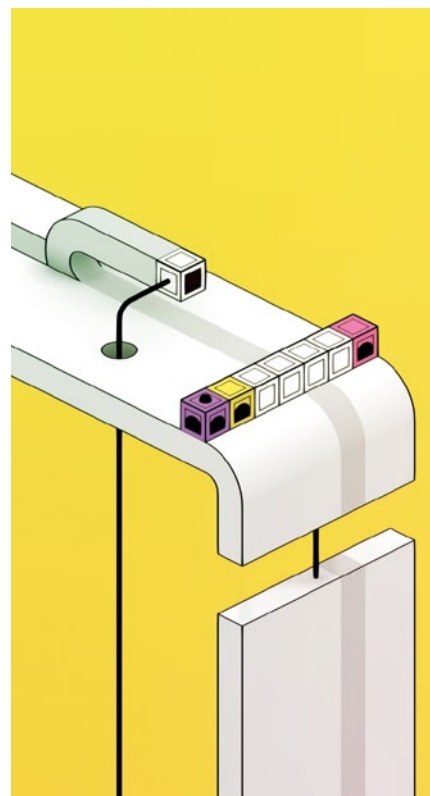
With *Reky*, there's the sense that Maria and Andreas have stripped everything back to basics: the problem-solving and soothing atmosphere of *The Minims* still remain, but their new puzzler

is more contained, minimal, and focused. *Reky* is in its final stages of development, and due for release later this year. Its collection of 100-or-so increasingly

complex levels is essentially complete, but its creators are still making adjustments here and there, following feedback from players at recent events like London's Pocket Gamer Connects.

"At one point, we thought our puzzles were very easy, after all these years of working on them," Andreas says, "but this wasn't the case at all. When we got to London, we said, 'OK, no, the challenge is there.' We've played these levels so many times!" 🎮

Attract Mode
Early Access

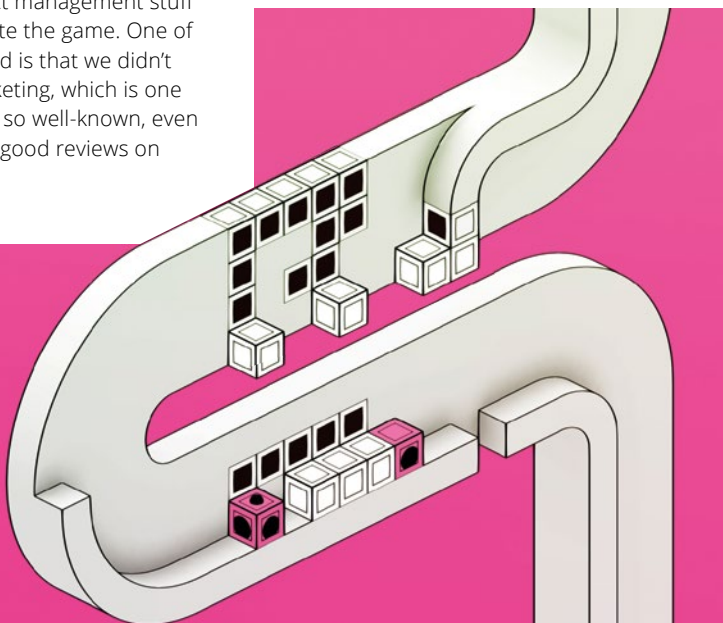


▲ *Reky* contained around 30 levels in its stages, but the number went into three figures once architect Konstantinos Sfikas got involved.

WHAT'S IN A NAME?

Through our chat with Andreas and Maria, one question lingered in the back of our minds: what does *Reky* mean, exactly? Does it have some deeper philosophical meaning? A connection to the game's less-is-more theme? "It doesn't mean anything," Andreas reveals, matter of factly.

"Nothing," Maria concurs. "It's one of those names that doesn't mean anything, but sounds nice to us. We spent two years trying to find the name! In the beginning it was called *The Block Project*."



Headlines

from the virtual front



01. The PUBG Ten

Ten teenagers in the Western Indian state of Gujarat were arrested for playing *PlayerUnknown's Battlegrounds* (PUBG). That's the full reason.

As reported by The Guardian, local police had banned *PUBG* in order to combat 'violent traits' apparently caused by playing it. "Due to these games," a statement said, "the education of children and youth are being affected and it affects the behaviour, manners, speech, and development of the youth and children."

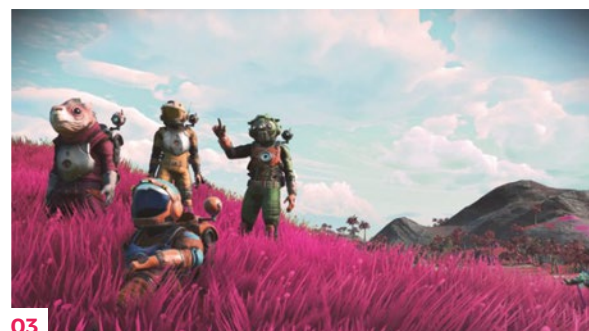
While our sympathies go out to these youngsters – it's a daft thing to be arrested for – the fact this happened in Gujarat has us dreaming of a pile of fresh, steaming dhokla, snack of the gods. Ahem.

02. Budget blasting

Aldi – yes, Aldi – has announced a publicity stunt... sorry, 'thing', aimed at parents who are incapable of stopping their children from playing games. It's called Teatime Takedown and has immediately annoyed two sets of people: one, gamers, who are offended by anything; and two, southerners, who are all now crying 'It's called dinner!'

The exercise in awful/brilliant marketing offers parents the chance to give their child's gamertag to Aldi, which will then task a hired professional with hunting down your child and murdering it. In the game. If you're reading this early, you've still time to join in the... fun? with a session of virtual infanticide taking place March 29–31.

No word from Lidl on its own-brand line of pro controllers, while Home Bargains refused to comment on rumours it was setting up a bulk-sized esports team.



03. All People's Sky

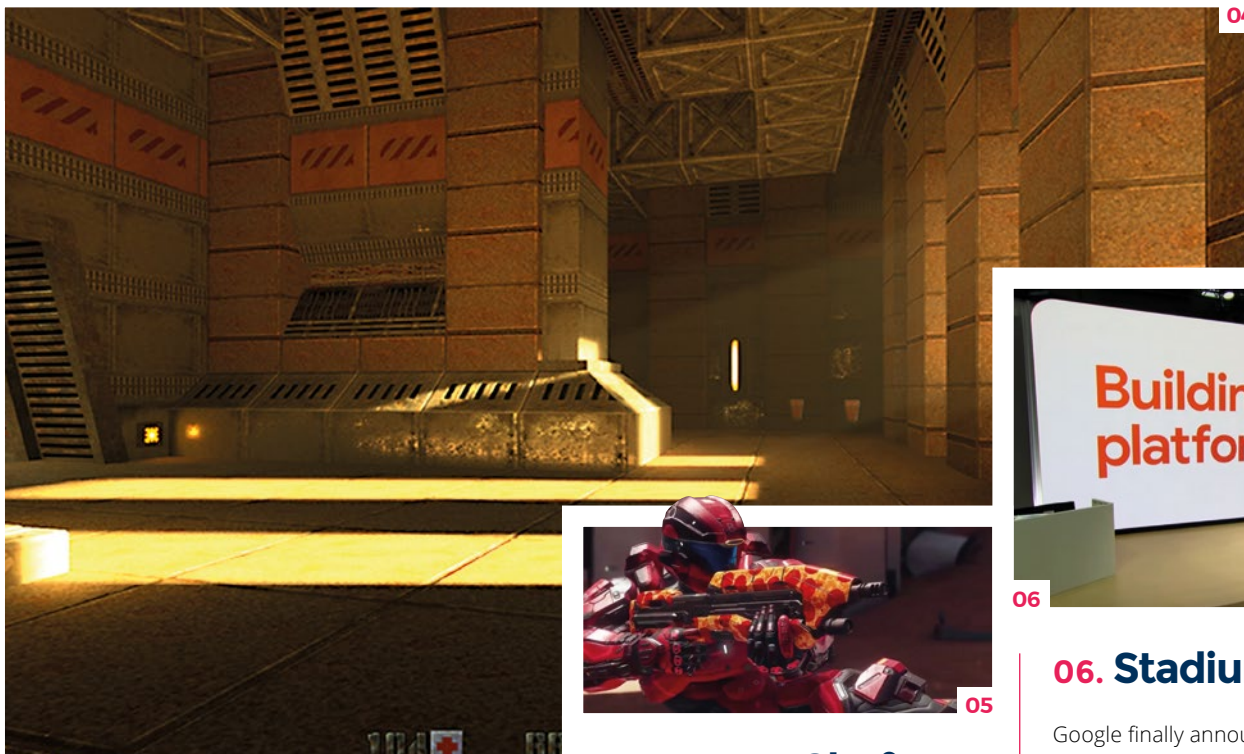
No Man's Sky should be a textbook example of a game that refuses to die – and for all the right reasons. Hello Games has announced the next planned addition to the *NMS* framework will be *Beyond* – something we already knew about, but now in the form of One Big Update (not its official name).

Beyond, releasing in the summer, brings with it *No Man's Sky Online*, which promises to allow all players of the game to get together and pootle about the infinite universe together. It's not an MMO, but it is set to (probably) be the playing-together-in-space experience we all wanted from day one.



Konami opening esports centre, apparently not solely for pachinko machines.

Sega halts sales of *Judgment* after in-game actor arrested on cocaine charges.



04. Quite RTX-y

Ray tracing is no longer the realm of the elite, as Nvidia announced a double-whammy of huge steps for the tech behind impressive real-time lighting effects. First up, existing GTX GPUs will receive an update to add ray-tracing functionality, meaning millions of people won't have to pick up an RTX 2060.

Second, more devs will be able to get stuck into this exciting new method of making puddles look real as functionality supporting ray tracing will be added to both Unreal Engine and Unity. Nvidia itself will support the push with its own toolset, GameWorks RTX.

So how is Nvidia showing off these new as-standard ray-tracing features? With *Quake II*. The classic FPS has been updated with all-new, very shiny effects and, frankly, it looks stunning. What are you waiting for, devs? Get to work on a ray-traced *Syndicate Wars*. Please.



05. Master Chef Collection

Gaming's greatest character (if you were 13 in 2001), Master Chef – sorry, Master Chief – is coming back to the PC. A *proper* port of the *Master Chief Collection* is coming to the home computer, with Ruffian and Splash Damage collaborating on making all of the *Halo* games pop on PC. Originally released on Xbox One in 2014, the updated collection brings all the previous *Halo* titles and throws in prequel *Reach* on top of it, along with all those delightfully tinker-friendly options you'd hope for on a PC game – field of view fans rejoice.

The best thing to come out of this, though, was original developer 343i agreeing to be sent a single pizza from a happy fan online. This being the internet, 343i was soon enough specifically asking people, with a straight face, to not send any more pizza. 343i had too much pizza. What followed? An in-game pizza skin.



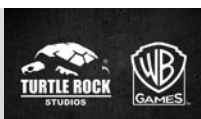
06. Stadiums

Google finally announced its entry to the world of gaming, Stadia. The streaming service – definitely not a console or PC – operates without dedicated hardware in the home, instead relying on... well, anything else, really. Browsers, tablets, phones, TVs – if it can drag in some creamy internet wireless signal, it will be able to run cutting edge triple-A games. And everything else, too.

So far it's a lot of promises backed up with nothing concrete. Price, release date, restrictions for developers signed up to Stadia, how game sharing et al works – it's all under wraps until later in the year. But being able to share a game – even a specific moment of a game – with anyone else via a link certainly sounds like one of those many Great Futures Of Gaming we've been promised. And with support for Unreal Engine and Unity out of the box, Stadia is making the right moves to hit the ground running when it launches in 2019.

Just don't ask anybody with a rubbish internet connection if they're looking forward to it.

EA pays Ninja £750k to promote *Apex Legends*. Because of course.



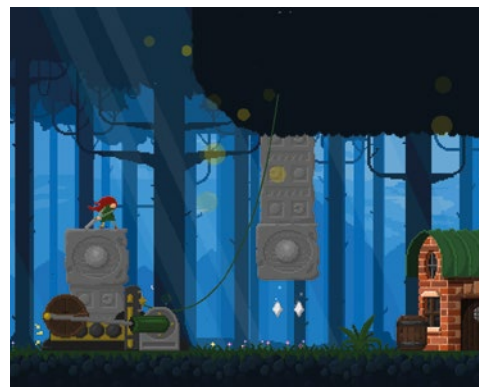
Turtle Rock announces *Back 4 Blood*; nothing to do with *Left 4 Dead*, your honour.

Attract Mode



The Beast Inside ↗

If you've already shuddered your way through *Resident Evil 2*, then here's another horror game that might just fill the gap. *The Beast Inside* is about a CIA operative who takes his wife on holiday to an old, seemingly empty house in the country. Big mistake. The unfolding plot appears to tie together the past and present, as the protagonist finds all kinds of unholy secrets lurking in the attic. In a further nod to *Resident Evil 2*, *The Beast Inside* features a menacing antagonist who also likes to wear a long grey coat and a tiny hat.



Mable and the Wood ↗

Most 2D action games let us kill things with abandon, but *Mable and the Wood* has a tad more moral complexity than usual. As the sword-wielding heroine charges through the landscape, she can kill enemies and temporarily take on their powers, the twist being that you don't actually have to fight anything in order to complete the game. "Will you banish the darkness, or will you become it?" developer Triplevision Games asks. We're looking forward to finding out the answer to that question.



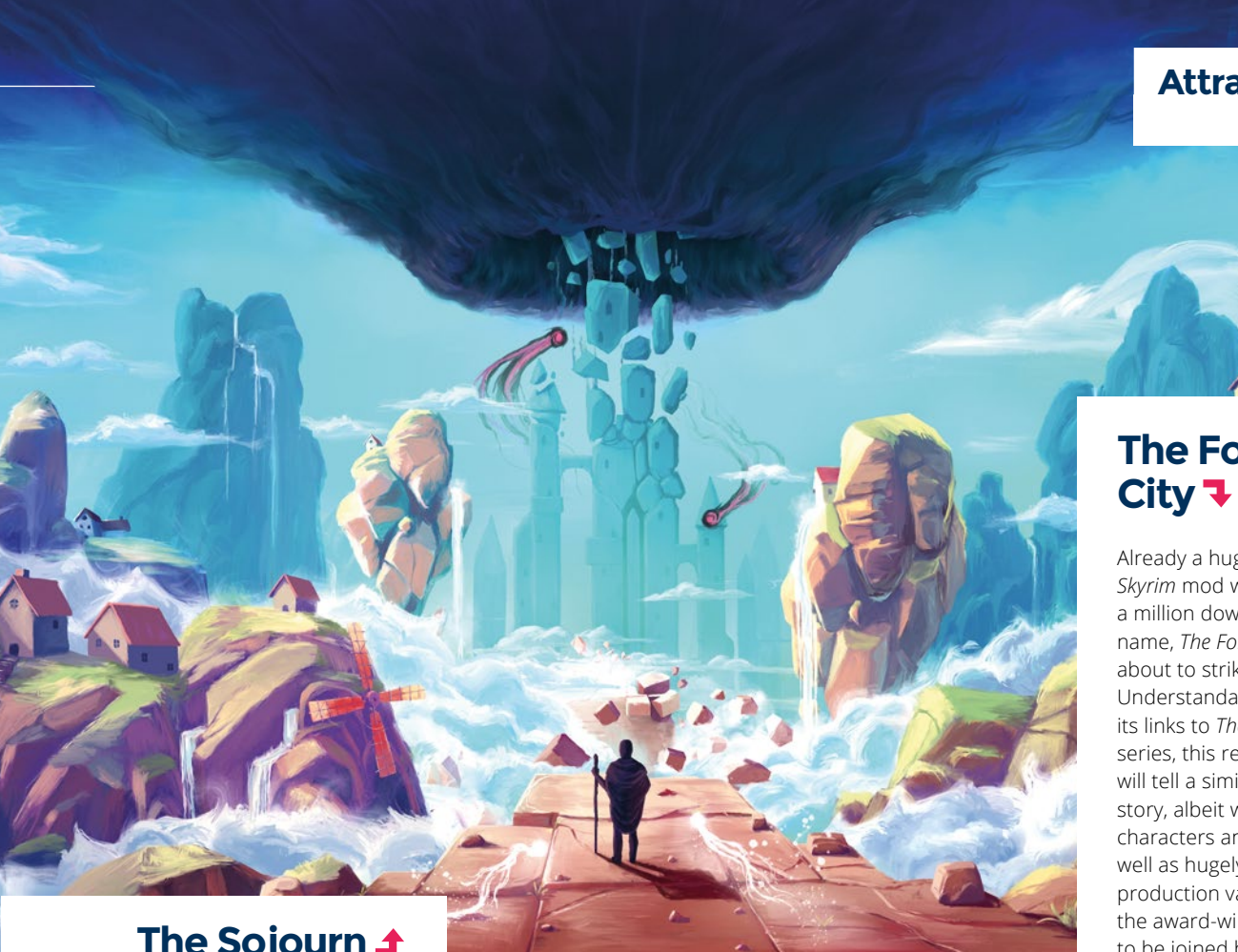
RAM Pressure ↘

The title made us think about sheep cramming for exams; the reality is a bit less whimsical than that. *RAM Pressure* is a tactical game that sees elite soldiers do battle with an army of aliens who've invaded without anybody noticing – your job is to engage in skirmishes, retrieve and research alien tech, and ultimately repel the insidious threat. If this sounds a lot like *X-COM*, well, developer QuadCom Interactive are open about the influence of that classic. What we've seen so far looks promising, though.



Unlucky Seven ↗

Hailing from Poland, this retro-themed adventure game features cats in bomber jackets and nods to classic horror flicks. About a group of furry convicts trapped on an alien planet, *Unlucky Seven* promises to contain a branching plot with 20 possible outcomes, VR support, and copious dollops of gore.



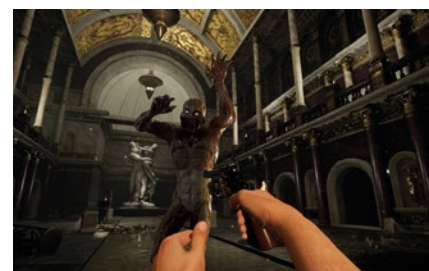
The Forgotten City ↴

Already a hugely popular *Skyrim* mod with well over a million downloads to its name, *The Forgotten City* is about to strike out on its own. Understandably stripping away its links to *The Elder Scrolls* series, this reworked version will tell a similar time-looping story, albeit with reworked characters and setting, as well as hugely improved production values – expect the award-winning writing to be joined by voice acting, mo-capped performances, a new orchestral score, and a lovingly-rendered ancient underground city.

The Sojourn ↱

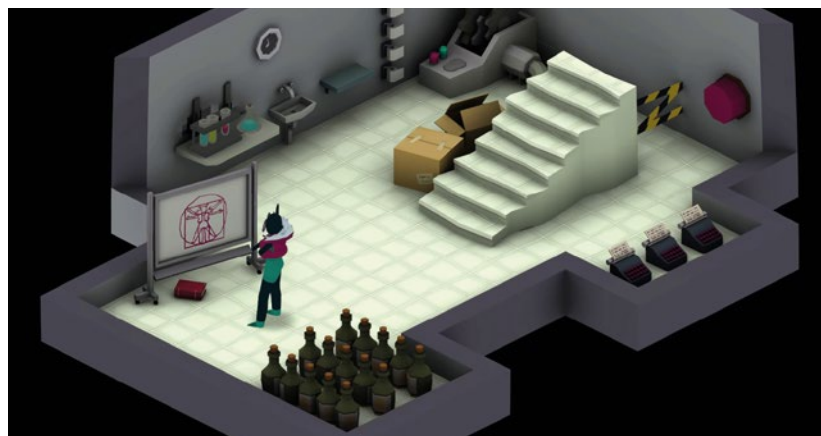
Absorbing puzzle games are a worthwhile distraction all by themselves, but we'd argue they're even more effective when they're married to a thought-provoking theme or an absorbing plot: let's face it, one of the reasons games like *Portal* or *Braid* stick in the memory is because their characters and ideas were so attractive. Which is why *The Sojourn* immediately stands out: its first-person puzzles involve flicking between a light and dark version of the same space, moving objects and observing how one polarity affects the other; meanwhile, the game's

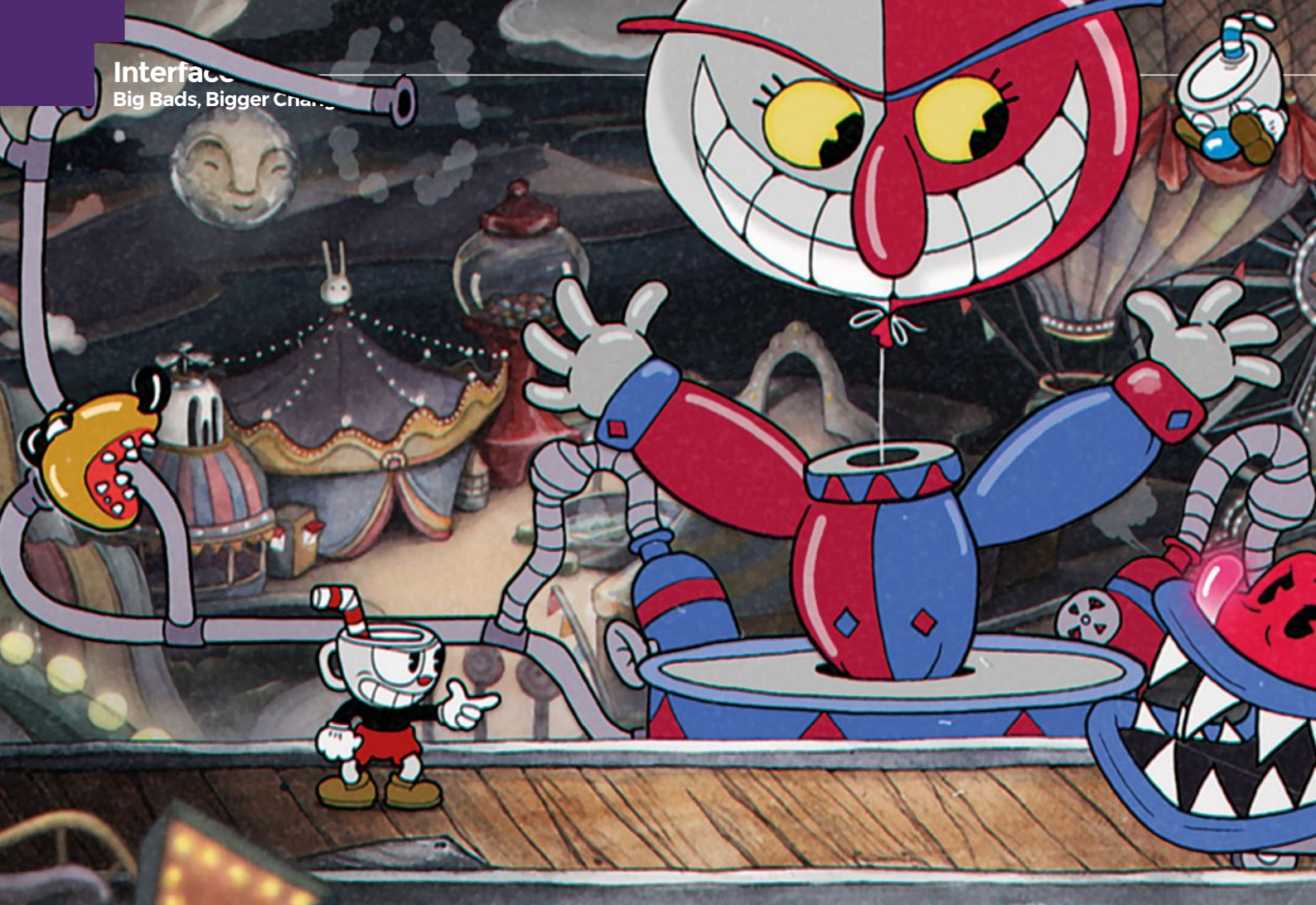
story takes on such heady themes as birth, mortality, human behaviour, and the nature of reality. There's all this, and some dreamlike imagery that looks like a cross between *Journey* and Croteam's *The Talos Principle* – so expect to find lots of sun-drenched landscapes full of bizarre architecture, and spooky alternate dimensions where flying creatures wind their way among Doric columns. All of this makes *The Sojourn* – due out this year from British developer Shifting Tides – well worth adding to your to-play list.



Playerless: One Button Adventure ↴

As we understand it, *Playerless* is an adventure-puzzler in which you play a spectral character whose task is to head into a video game and fix its out-of-control AI. We may be mistaken, though: developer Moonlit describes *Playerless* as “a game within a game”, where “two plots intertwine”, and where “the AI has formed a sect.” All we know is that the game's puzzles will be solvable with single-button inputs (it's right there in the title) and that *Playerless* has a disarming line in surreal humour.





BIG Bads, BIGGER Changes

Modern developers are merging old-school lessons with modern design to create innovative boss battles

WRITTEN BY
Cody Mello-Klein

Browser, Psycho Mantis, Ornstein and Smough: gaming history is full of exhilarating, teeth-grindingly difficult, stand-out boss fights. As an element of game design, boss

battles are meant to stand out. They're climactic moments that offer challenge and catharsis in equal measure, testing our skills and distilling hours of gameplay into singular, epic moments.

There's an art to crafting those moments, and, like any form of art, boss battle design has evolved slowly but surely over the years. Whether they're shifting focus from challenge to character, or paying homage to classic boss design by melding retro influences with a modern mindset, modern designers are experimenting with boss battles in ways that expand and evolve the form.

We spoke with designers at three studios – Ubisoft San Francisco, Ninja Theory, and

Studio MDHR – to find out how they're bringing boss battles into the present – and why there's still value in one of gaming's longest-standing traditions.

ACTION-PACKED PUNCHLINES

Ask players what makes a good boss battle, and you'll likely get responses like 'gruelling difficulty' or 'challenging attack patterns'. A fair amount of boss design involves both of these things. If the levels leading up to the big bad are class assignments, a boss is the test at the end of a lesson. A good test is difficult because it asks you to critically engage, perhaps in new ways, with material you've already learned. Most classic bosses from every era of gaming history are difficult tests of skill.

While working on *South Park: The Fractured But Whole*, the team at Ubisoft San Francisco knew this wasn't the right approach. This was a game





▲ Integrated learning, where players learn to adapt their skills as a boss fight changes, is central to *Cuphead's* boss design.

that would be played by more *South Park* fans than hardcore gamers, and that meant expertly timed punchlines and well-written jokes were more important than difficult gameplay.

"The game was about making you laugh, not necessarily proving you had all the skill checks in a row," says Kenneth Strickland, lead game designer on *The Fractured But Whole*.

Most bosses are designed around specific mechanics or attack patterns. With *The Fractured But Whole*, Strickland and game director Jason Schroeder worked to shift the focus from challenge to character. For a team of designers that are used to asking, "What's challenging?," it took a while to start asking, "What's most appropriate for this character?"

"There was a lot of retraining people's brains, in terms of, 'No, don't give me something I just played but 50% harder with just slightly bigger numbers,'" Strickland says. "Tell me what makes Butters, Butters. And how do we use our tools to express that?"

Writing and designing boss encounters around comedy comes with unique challenges. Worrying about the pacing of a boss's gameplay is hard enough, but the team also had to pace jokes and the characters' constant barrage of insults.

Comedy is about timing. A good joke at the right time can release tension; a bad one can completely deflate a situation.

"The challenge was pacing, because what you don't want to do is cut a dramatic situation off at the knees before it's had a chance to build, and you don't want to steamroll whatever you're doing with five jokes so that people forget what they're even there for in the first place," Strickland says.

Luckily, Strickland and Schroeder worked with *South Park* writers Trey Parker and Matt Stone, who also wrote the script for *The Fractured But Whole*, to figure out the narrative and comedic goals of each dungeon crawl and boss. Ubisoft's designers could then start to build levels and bosses around character and comedy. Strickland was quick to point to the boss battle with fan-favourite character Butters as an example of this approach.

"[Butters] comes up with this plan that is distinctly horrible, but because he's so innocent he doesn't quite understand it," Strickland says. "A Butters plan always falls apart. In the show, he tries something and it gets undercut and

"Writing and designing boss encounters around comedy comes with unique challenges"

undercut and undercut until it's nothing, which is literally how that boss battle works. He got more and more pathetic as the whole thing went on."

Working from a core understanding of the character and *South Park's* provocative, absurdist humour, the design team crafted a hilarious fight that uses the game's turn-based combat in ways that are specific to Butters, and incorporate classic boss design philosophies. *The Fractured* ♦

BALANCING ACT

The value of playtesting can't be underestimated when it comes to designing boss battles – every developer mentioned in this story used playtesting to help balance difficulty and pacing. With challenge at the core of the experience, Studio MDHR had a very specific playtesting process. "[We were] cross-checking things with people of different skill levels to see what works and what doesn't," Jared Moldenhauer says. "It's kind of like, 'If it's too hard for this person, but too hard for this other person, it's probably about right for *World 3*'."

▼ The fight with Butters, or 'Professor Chaos,' is funny, ridiculous, and a little offensive. In other words: it's *South Park*.





^ For art director Chad Moldenhauer, King Dice was a dream come true. "We always wanted to do a multiboss, board game-style fight as an homage to *Gunstar Heroes*, but the scope of it seemed insane."



^ Surt is the first boss players encounter in *Hellblade*. He's a slow and powerful fighter, but his design is deeply rooted in Norse myth and Senua's own fears.

But *Whole's* combat system revolves around a tile system and pushing and pulling characters from one tile to the next to deal damage. The fight with Butters, with its 'floor is lava' mechanic, relies on the player having mastered those tools.

"We saw a couple of good opportunities for jokes that dovetailed nicely with mechanics," Strickland says. "That second stage where you have his minions running over with tacos to heal him: that started as a gag, but then we realised pretty quickly, because we had that chance to iterate, that's actually great gameplay, trying to push people away from Butters so it doesn't happen."

Throughout development, the team's mantra was character first. The designers didn't ditch what's worked in boss design for decades – they just added some extra spice.

"I still think of difficulty as a shortcut to getting you those memorable moments," Strickland says. "We approached getting those memorable moments through character, humour, putting those things in the mechanics. A nicely tuned difficult boss is just an engine for giving you those 'saved yourself by the skin of your teeth by doing X' sorts of stories."

PSYCHOLOGICAL WARFARE

Boss battles are defined by a fight against some seemingly insurmountable enemy. Ninja Theory's action game *Hellblade: Senua's Sacrifice* made that enemy cerebral. Filtered through the lens of a Celtic warrior suffering from psychosis, the boss battles in *Hellblade* are nightmarish psychic skirmishes. Characters were at the heart of Ubisoft San Francisco's boss battles, but in *Hellblade*, Senua's heart and mind are the battlefield. Here, myths transform into terrifyingly real battles as Senua journeys into Norse Hel. Ninja Theory designed its core trio of boss battles – the fiery Surt, raven-themed Valraven, and monstrous Fenrir – around a mix of mythology and Senua's traumatic experiences.

"Surt is the god of fire, and Senua's home was destroyed by fire. Norse mythology has a recurring theme of characters jumping into fire to reach the underworld," says creative director Tameem Antoniades. "Similarly, the idea of ravens being spies of Odin are common. When Senua returns home, ravens are pecking the corpses, which sticks in her mind. From these kinds of

ideas, you start to form the mechanics of the boss encounter."

Surt and Valraven are both humanoid

fighters designed with mythology and trauma in mind, but they're still physical challenges for Senua and the player. Fenrir is something else entirely, and it's here that Ninja Theory's cerebral boss design shines. A massive, rotting wolf that lunges from the shadows, Fenrir plays on Senua's – and the player's – fears, both psychologically and mechanically.

"It's very difficult to create a compelling fight with a giant quadruped in a melee game," Antoniades says. "So instead, we focused on the idea of fear, claustrophobia, and uncertainty."

A spotlight shines down on Senua. Everything outside the light is shrouded in darkness. That's where Fenrir lurks. It's frightening not only because we're naturally afraid of the dark, but because the game has taught us to fear it.

"The whole of the level leading up to the boss teaches you to panic whenever you are in darkness," Antoniades explains. "The fight is intentionally set up to happen in a small spot of light in a dark cave. Then the boss himself either hides in the darkness or fills the arena with dark fog to get you to panic. This also reflects the



▲ Fenrir symbolises the darkest moments in Senua's life, and the atmosphere surrounding the fight represents that darkness.

story of how Senua's father used to keep her trapped in a dark hole where she experienced panic attacks and fear. [It's] where her mental state deteriorated."

Hellblade's boss fights stand out not for their mechanical complexity, but their empathic power, and the fight with Fenrir forges psychological bonds between character and player. By the time *Hellblade* reaches its finale – a boss fight with Hela and a literally endless horde of enemies – Ninja Theory's psychological approach to boss design really pays off. Instead of a traditional boss battle, *Hellblade* offers an alternative: don't fight.

"We are always taught to never give up, never surrender, but what if we are fighting the wrong battle?" Antoniades says. "How do you let go when every fibre of your being is telling you to keep fighting?"

RETRO FUN, MODERN DESIGN

As nostalgia for the 8-bit and 16-bit eras has risen, some developers have started to offer modern spins on classic design principles. There are always lessons to be learned from the past, and while games like *The Fractured But Whole* and *Hellblade* forego challenge in favour of character and depth, there's something to be said for the challenging, puzzle-like design of classic boss battles. The members of studio MDHR, the team behind *Cuphead*, freely admit that they borrowed from the games of their childhood.

"Lots of our bosses are direct homages to our favourite bosses from the [16-bit era]," says Chad Moldenhauer, art director at Studio MDHR. "Take Hilda Berg, for example. One of my favourite boss fights from *Contra Hard Corps* on the Genesis has you fighting in a VR stage where a boss changes pattern based on an astrological sign that they reference. We took that idea for Hilda Berg and had her morph into her own versions of those astrological signs."

In *Cuphead*, homages to the past are rendered in a gorgeous, Max Fleischer-inspired art style, with modern ideas about integrated learning and pattern design. The result is something wholly new, with bosses that represent the best of the past and present in boss design. The game is largely known for its difficulty; but here, lead game designer Jared Moldenhauer learned from the sins of other, earlier games.

"It's easy to throw a million things at a player and just tell them to figure it out, but they probably won't have a very good time," Jared Moldenhauer says. "You can make anything impossibly hard by just narrowing the reaction time and making everything require frame perfect inputs to overcome. Hard is easy, hard but fun is tough."

Like the best boss fights, *Cuphead's* many big bads are a complex series of patterns that allow the player to fail, adapt, and learn. It's a cycle as old as time: live, die, repeat. The team had a classic approach to designing many bosses: start with a specific pattern idea and then create a thematically appropriate character around it. Other times, the team had a character in mind and, with a modern, character-first approach, retrofitted patterns onto that character.

"For Djimmi [the Great], there was a series of patterns that we knew we wanted, but we never had a boss that suited it so we designed him to fit those patterns," says Jared Moldenhauer. "Djimmi, being a genie that could take basically any shape we could come up with, meant that he was extremely malleable to work with."

Boss battles, like so many elements of game design, are always evolving. Technology sits at the core of the games industry; it never stands still. But, after 50 years, games have a history that needs to be recognised as well. Every developer that reinvents or recreates boss battles is a part of that design legacy. All the players that gnash their teeth, leap back from the screen, or shout out in joy during one of these moments is in conversation with that history. 🎮

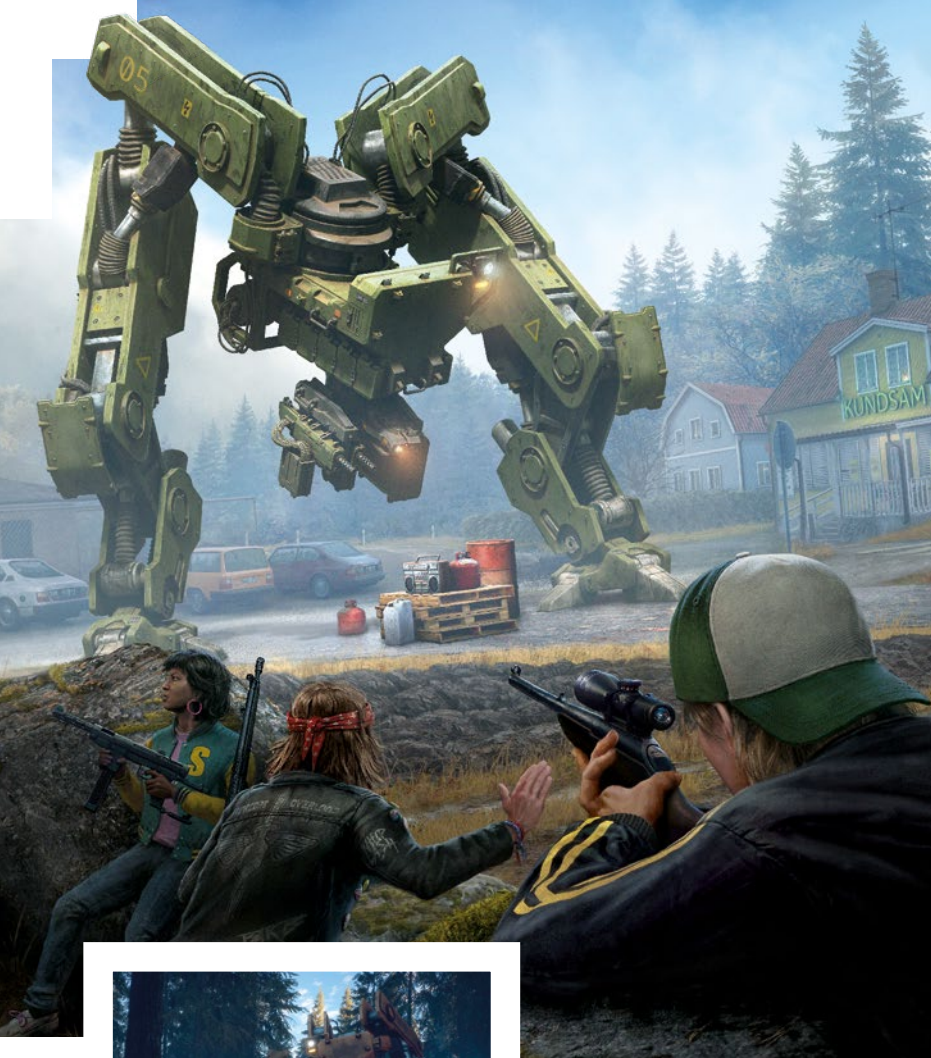
RIGHT ON CUE

Hellblade is filtered through Senua's fractured lens, but the same things that make it such an immersive experience also make its boss fights challenging and intense. There's no HUD or health bar, so Ninja Theory didn't have the luxury of traditional visual indicators. "Clear attack poses that telegraph attack types and direction are critical, especially as we don't have flashing lights or symbols that you might see in other games," Antoniades says. "As there are no health bars, we would instead rely on cuts on the enemies, animation changes on the boss or Senua, the voices and music cues."



▲ *The Fractured But Whole* uses a tile and turn-based combat system. The basic system of pushing and pulling enemies across open tiles is twisted in every boss fight.





Rise of the machines

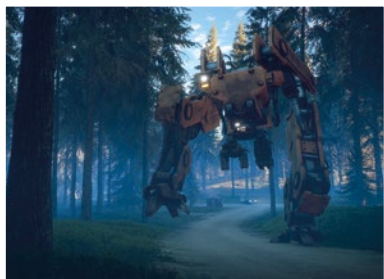
Generation Zero director Emil Kraftling tells us how his team designed its killer robots

Imagine this nightmare scenario: you're roaming an alternate version of Sweden in 1989. The Berlin Wall's just fallen, and the Cold War is in its dying days. But besides all the Phil Collins and Roxette posters, something even more horrifying awaits you: an army of killer robots, some small and gravity-defying, others huge and bipedal. All are heavily armoured and programmed to murder humans on sight.

This is the premise of *Generation Zero*, the latest open-world game from Avalanche, the perennially busy Stockholm-based studio behind the *Just Cause* franchise and this spring's shooter sequel, *Rage 2*. But where *Just Cause* is known for its scenes of over-the-top destruction and abundance of weaponry, *Generation Zero* is all about scarcity; it's Avalanche's take on the survival genre, which means that scavenging and managing supplies are the order of the day here. Either alone or with up to three friends in co-op mode, players will need to plan and coordinate their attacks on the game's tougher opponents – though it will be possible to disable a killer machine by shooting out its artificial eye before making a hasty escape.

For game director Emil Kraftling, *Generation Zero* was a chance to step beyond the humanoid enemies we commonly see in shooters; instead, he and his team wanted to come up with threats that not only looked distinctive, but also provided a wide range of challenges for the player.

"Before we even thought about what they looked like, we defined the enemies based on what challenge they were meant to pose to you," Kraftling tells us. "Where would you fight them? In what numbers? The next step was realising something that would be awe-inspiring and feel unique with distinct-enough silhouettes, while still being true to the context and setting. Machines



▲ Inspired by *theHunter: Call of the Wild*, *Generation Zero* creates "a situation where the animals were hunting you and not the opposite."



▲ Kraftling's team designed the machines to be immediately recognisable just from their basic shapes.

like these would obviously not exist in 1989, but if they had, how would they have looked?"

PLAN OF ATTACK

The challenge in designing *Generation Zero*'s killer machines, meanwhile, came from deciding how they would move, attack, and take damage. As Kraftling points out, human-shaped enemies are a relatively simple thing to implement in a game, because the movements and weak spots on a human body are so well understood.

"That's partially the reason why there are so many zombie games – because it's a comparatively 'cheap' enemy," says Kraftling. "[You're] reusing the same human skeletal rigs that you've created for player characters and getting away with a fairly simple AI. This doesn't mean it isn't a great enemy type, or that other games haven't done great things with zombies – they have – but we wanted to do something different, that people couldn't really get in other similar games."

To this end, Kraftling's team turned to an earlier title he worked on as designer: *theHunter: Call of the Wild*, which Avalanche published in 2017. That game managed to simulate its menagerie of wild animals to such a high level of detail that it could award players for, say, blasting a moose directly in its left lung. This macabre yet impressive simulation was adapted for *Generation Zero*: like *Call of the Wild*'s ducks and moose, its robots have delicate mechanical organs hiding beneath their metal skins.

"We figured that we could expand on [*Call of the Wild*] in creative ways, and with machines as our enemy type we could have 'machine organs' in the form of components," Kraftling explains. "That would not only dictate the damage you did to them, but also impact their functionality and behaviour. So if you shoot out an enemy's optical lens, it will still be alive, but no longer able to visually detect you."

Avalanche also strove to come up with different kinds of AI for each class of machines; some, like the four-legged Runner, will simply charge directly at the player; larger types, like the armoured, bipedal Hunter, are smarter as well as tough.

"We have some that are not very tactical and mostly go for a head-on approach, but [they] usually make up for it by coming at you in



Some enemies will take teamwork to destroy.

numbers," Kraftling says. "Then we have enemies like the Hunters, which employ more advanced group tactics and pose a greater cerebral challenge."

Generation Zero may play out over a sprawling recreation of eighties Sweden, but the team

behind it was comparatively small: Kraftling says that, even at its peak, the game had 30 people working on it at the

"We wanted to do something different, that people couldn't get in other similar games"

most. And because it's self-published, rather than financed by a major publisher, it was made with a leaner budget than most earlier Avalanche games. Much like the characters inside the game itself, *Generation Zero*'s designers had to pick their battles carefully, and work out where best to use the resources they had.

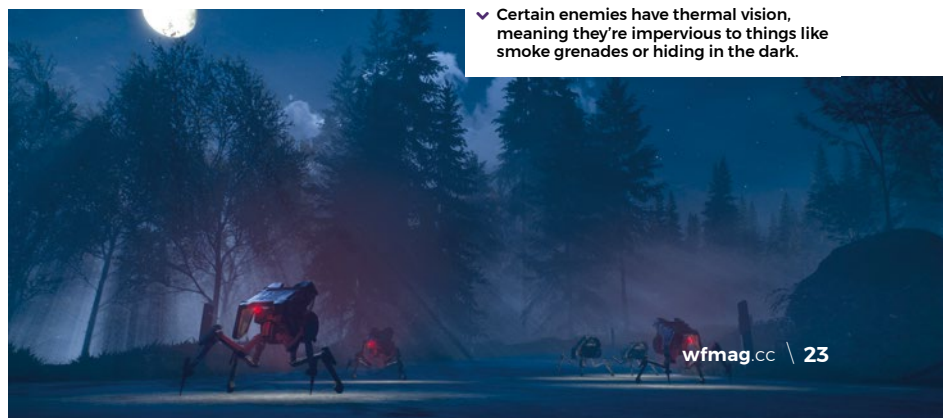
"I'd say the most challenging aspect has been to find the best possible game within the given constraints," Kraftling says. "And putting together an open-world game with a substantially smaller budget and team than we're used to has definitely been a new challenge in and of itself. But we also get so much from our 15 years of experience making open-world games. And being confident in that foundation makes it easier to get creative with what we bring into those open worlds and from what perspective." 🧐

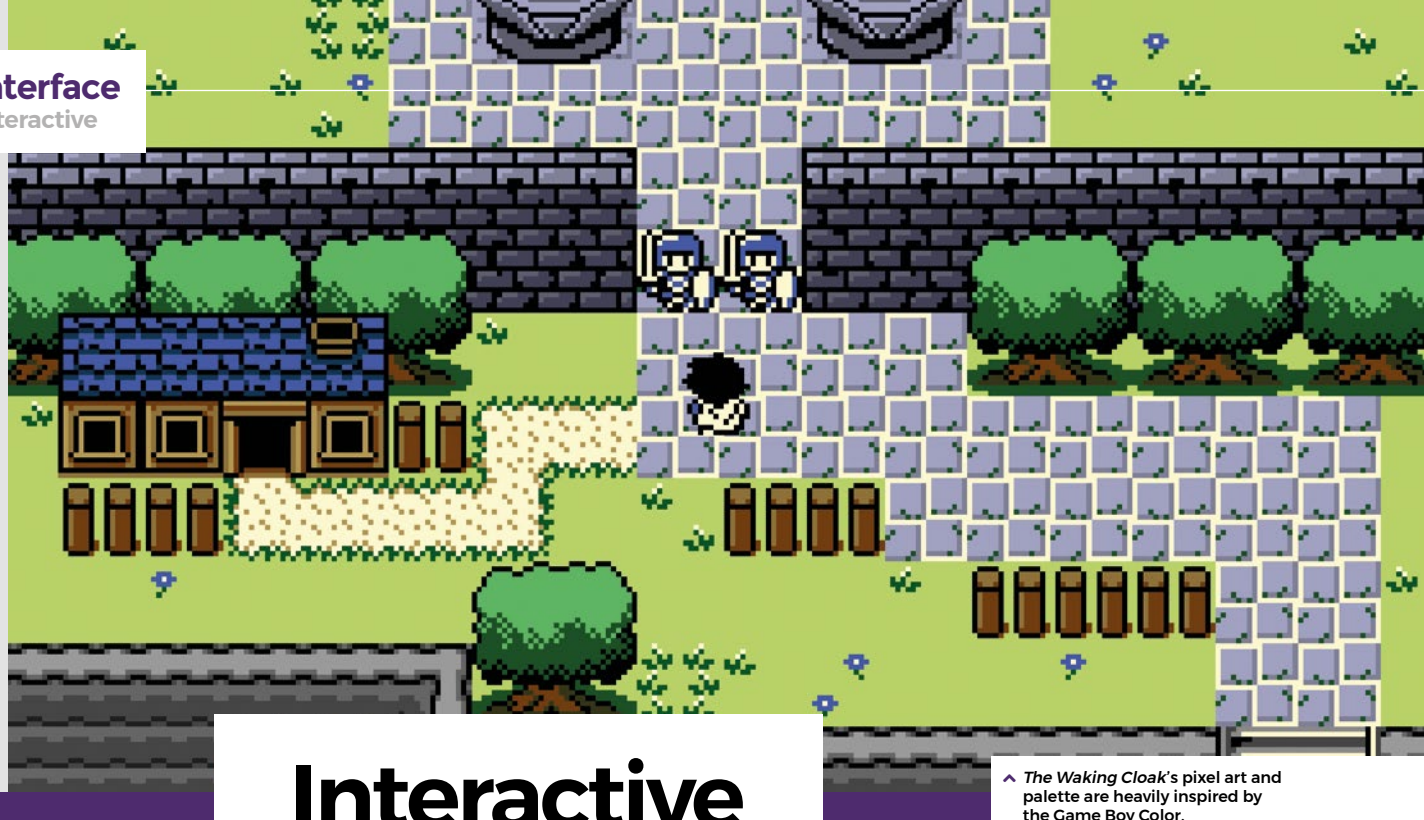
BACK TO THE EIGHTIES

Like *Stranger Things* and multiplayer horror game *The Blackout Club*, *Generation Zero* is steeped in nostalgia for eighties pop culture. The 1984 movie *Red Dawn* – about teenagers fighting a guerrilla war against communist invaders – is a key influence according to Kraftling, but the game also gave its creators the chance to lean on other childhood memories, including Sweden as it was back in the eighties.

"Our memories have had an impact on everything from the look of the environments, the types of player apparel, the naming of people and locations, and aspects of the background story," Kraftling says. "Obviously, the game world represents an alternate history, but so much of it is built on a foundation of reality and we really want to present an authentic-feeling representation of Sweden in 1989."

Certain enemies have thermal vision, meaning they're impervious to things like smoke grenades or hiding in the dark.





▲ *The Waking Cloak's* pixel art and palette are heavily inspired by the Game Boy Color.

Interactive

The Waking Cloak

We chat to Daniel Miller, the creator of Game Boy Color-inspired Zelda-like, *The Waking Cloak*

Are you a solo developer working on a game you want to share with Wireframe? If you'd like to have your project featured in these pages, get in touch with us at wfmag.cc/hello

▼ *The Waking Cloak's* creator, Daniel Miller.



In Wireframe issue nine, we looked at how early entries in the *Legend of Zelda* series have inspired a generation of indie developers to make top-down adventure games of their own.

And straight from Dallas, Texas, here comes a particularly charming *Zelda*-like: *The Waking Cloak*. It's the work-in-progress of Daniel Miller who, over the past four years, has spent his spare time between working as a software engineer on constructing a sprawling pixel fantasy world. Fans of the Game Boy Color will probably recognise the colour palette right away: *The Waking Cloak*, with its mysterious island setting and trap-filled dungeons is, Miller says, a love letter to the happy hours he spent playing *Zelda* games as a child.

"The project was born back in 2015," Miller tells us. "One of my brothers was living with us at the time, and I still vividly remember coming into the living room and noticing him playing *The Legend of Zelda: Oracle of Seasons* on his 3DS. I watched for a few minutes, and then it was like I'd been struck over the head: *I could make a game like that*. The feeling was honestly overwhelming."

Seeing *Oracle of Seasons* again triggered something in Miller's mind: he'd long dreamed of making an adventure game of his own – so,

he thought, "Why not actually go for it?". With the help of his brother, Miller spent several weeks planning out the bare bones of what would become *The Waking Cloak*: the story of a young urchin whose ship is wrecked, leaving him trapped on an unfamiliar island; the monsters and mysteries; the titular waking cloak – a garment that allows the wearer to travel between night and day.

"The project is really my love letter to my childhood, gaming on my hot pink Game Boy Color," Miller says. "I had so many adventures on that. That's the system I remember most fondly, and I'd love to recapture that same essence in *The Waking Cloak*."

Miller has a solid technical background, including a degree in computer science and a day job in .NET web development; in terms of game design, though, he's mainly self-taught. He's been editing levels in things like *LittleBigPlanet* and making maps in *Age of Empires II* for years, and more recently, he's given himself a crash course in sprite design as he's gone through the process of making his first full game.

"Building stuff and watching people play it is a great learning experience," Miller says of his learning experience with *LittleBigPlanet* and *ModNation Racers*. "If you're gravitating towards

"The project is my love letter to my childhood, gaming on my hot pink Game Boy Color"



creative games – level editors, modding, and so on – feed that creativity. I didn't learn 'real' programming until college, but I learned basic programming logic from *LittleBigPlanet*."

TOOLS OF THE TRADE

When it came to making *The Waking Cloak*, Miller used GameMaker Studio 2 as its engine, and heartily recommends Aseprite for designing the graphics ("It's an amazing tool for drawing and animating pixel art, and I've found it really intuitive," he enthuses). When it comes to laying out his overworld maps and dungeons, though, Miller often turns to more traditional tools: a pencil and paper.

"When designing a dungeon, my recent process is to start with brainstorming ideas and rooms, and use those to sketch out a very tiny version of the dungeon a few times," Miller says. "I did this on a sticky note! Then I sketch a bigger version on full-sized paper. After that, I move to graph paper for the trickier puzzles. Graph paper is a life saver. This has worked so much better than my previous process, which was to try to build the dungeon map digitally from scratch. That was just way too overwhelming."

As with so many other solo developers we've spoken to over the past few months, Miller's found that one of the biggest challenges is fitting his game around all the other demands of everyday life. *The Waking Cloak* has gradually progressed through lunch breaks at work, or an odd hour in front of the television each evening.

"That fragmented working style means a feature that takes a normal developer a day to implement might take me a week instead," Miller explains. "I have to really make sure I keep track of all my tasks and take lots of notes, since there's no telling how long it'll be between coding sessions."

What's clear is that *The Waking Cloak* isn't lacking in ambition – the pixel graphics may hint at a small, intimate take on the *Zelda* series, but Miller tells us that its play area is actually larger than the Game Boy Color adventures it's inspired

by: the overworld map is divided up into ten or so areas, and then there are dungeons, as well as "some mini-dungeons, lots of caves and hidey holes, and a town or two."

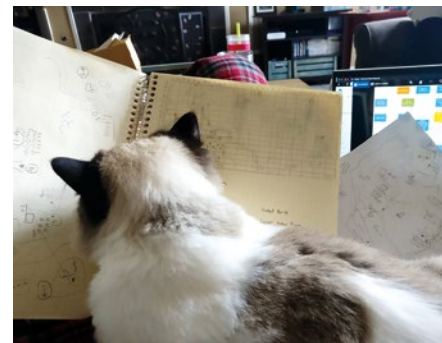
"There's still plenty of room for cutting if it ends up feeling too big or bloated," Miller says, "but at its current size, it's bigger than the Game Boy Color *Zelda* titles. They had an overworld formed of 14x14 rooms, or 196 rooms total (this doesn't include dungeons or interiors). *The Waking Cloak* is not only 16x16, but the rooms themselves are twice the width, since we're widescreen these days."

Miller doesn't yet have a release date in mind for *The Waking Cloak*; rather than exhausting himself by trying to hit a deadline, he says he's taking a "done when it's done" approach: "Because it's a hobby and not my family's livelihood," he explains, "I have room to do this."

All the same, Miller's keeping himself motivated with milestones to work towards, including plans for a playable demo; once that's done, he'll have a better idea of how much more work the game will need before it's complete. Then there are his plans for release: *The Waking Cloak* will appear on itch.io and Steam for PC, and he hopes to port the game to Mac and Linux; after that, there's the allure of the Nintendo Switch.

"You have no idea what that would mean to me," he says. "Holding my Switch with *The Waking Cloak* on it just might be enough to make me cry! That would make the whole thing come full circle for me, I think." 🙏

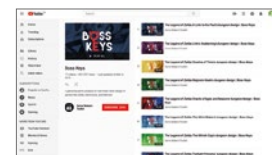
▼ "I'm self-taught in art," Daniel says of learning how to draw sprites. "It's just a lot of practising and getting feedback."



▲ Daniel often favours a pencil and paper for coming up with early ideas – assuming Momo the cat will let him.

GETTING STARTED

"The best way to learn programming is to have a project you really want to do, and then find the best tool to do that in," advises Miller. "A lot of people say to start really small, and that can be valuable, but if you have no drive to make something small it'll make it that much harder to learn. For game development, maybe start by modding, or by picking something like Unity, since it's free and has a huge community surrounding it. Follow along with tutorials, ask lots of questions, tweak things and see what happens, use Google for answers. Watch game design videos on YouTube like Game Maker's Toolkit (His Boss Keys series has been incredibly helpful for me). Get people to play your stuff, note where they struggle, talk about what they like, and keep improving."



A word on awards



STEVE MCNEIL

When it comes to awards, Steve's always the drunk bridesmaid.

“Those receiving the awards would possibly be better served spiritually by having their tummies tickled slightly less frequently”

Several years ago I was nominated for an award for best streamer. Occasionally, I'll include that fact on things to convince people who don't really understand what I do that I'm a legit gaming human. Of course, I'm not. I'm a shambolic chancer. This isn't humility – the aforementioned award was so rigorous in its shortlisting of nominees that, when I arrived at the event, I wasn't on the guest list, but the member of the public who nominated me was. They had to find me a spare chair and some unclaimed chicken. Never has success felt so unsuccessful-y.

Since then, I've been lucky enough to attend a number of industry awards ceremonies, in pretty much every capacity (other than winner, of course). On one occasion, I found myself presenting an award which was sponsored by a broadcaster I had recently ceased working with. They were also there to present and, just prior to going on stage, leant over to me and asked “You're not going to embarrass us, are you?” as if my intent was to walk on stage, air some petty beef no-one else in the room had even a passing knowledge or interest in, and thus make myself look like a spiteful melon for the sake of a public dig at a third party.

On another occasion, at an event which primarily celebrated online talent, I was amazed to discover the complete lack of regard the audience had for the on-stage presenter and winners. They ignored them, talked loudly throughout, and rarely even bothered to applaud. This perhaps shouldn't be a surprise given many of them have carved out a niche in a sector which promotes the celebration of the self as a brand, but you'd have thought, on the rare occasions where they weren't being really good at clicking a mouse cursor on the right bit of a thing really quickly, they might have had to be courteous to other humans.

Lest this all seem like sour grapes, which it no doubt partly is, I'm not completely anti-awards. I was recently lucky enough to host the MCV

awards, and these gave many unsung heroes working behind the scenes in the industry a chance to have their contributions recognised. In contrast to many other gaming sector events I've attended, each win was celebrated by the room, and people seemed genuinely happy to enjoy others' success. But, whilst this demonstrates that awards can be a genuine celebration of the achievements of peers, experience suggests they all too frequently fall short. Those who organise them often do so primarily to enhance their prestige by association, those who sponsor them do so not to celebrate the success of others but to inflate their own perceived importance, and those receiving the awards would possibly be better served spiritually by having their tummies tickled slightly less frequently and told to get their own damn chicken.

Of course, if I'd ever actually won an award, I might feel differently. But I haven't. So, why do I continue to attend them? As the old saying goes, You can lead a functioning alcoholic to a free bar, but you can't not make him drink. 🍷



^ Steve McNeil presenting this year's MCV Awards. We hear the chicken was spectacular.

Toolbox

The art, theory, and production of video games

28. CityCraft

Recommended reading for virtual city builders

30. Post-production

Following a new model of game development

32. Source Code

Recreate Pang's spawning balloon enemies

34. How to make a Twine game

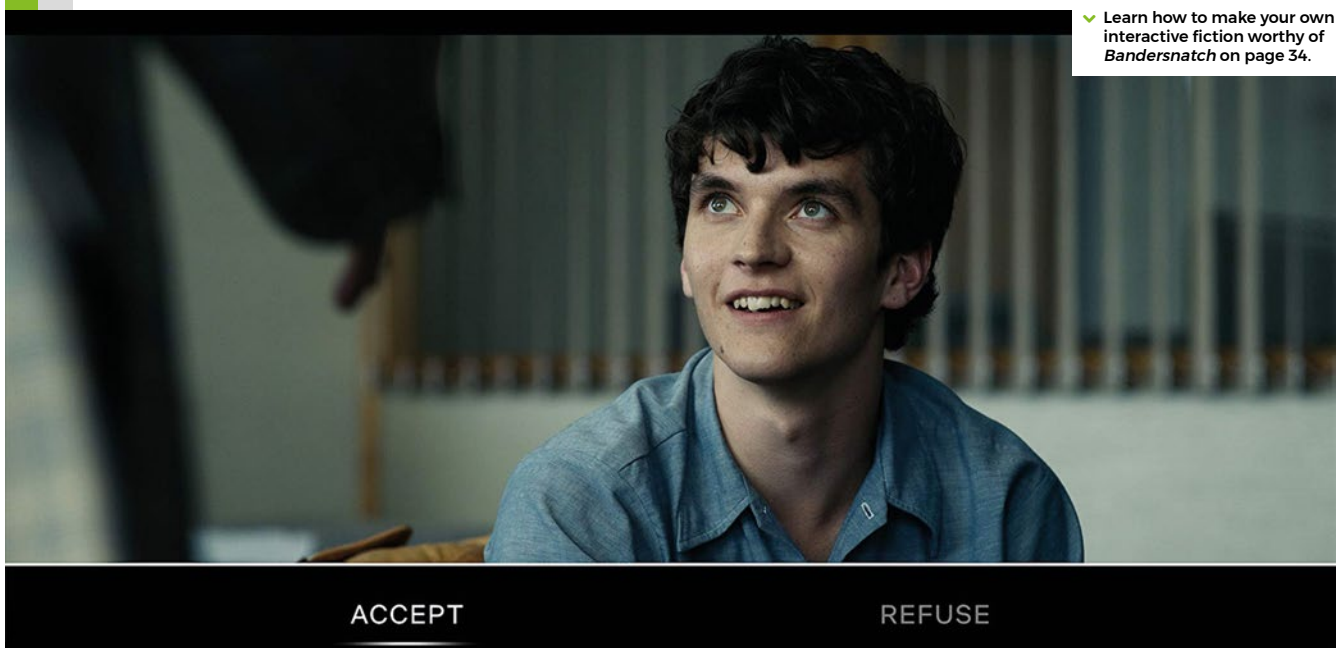
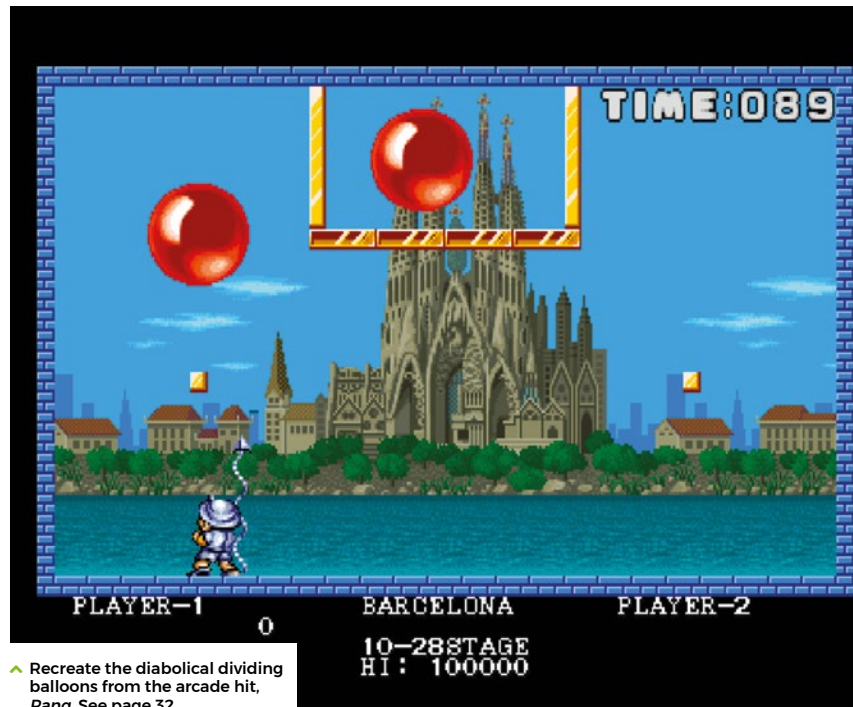
A beginner's guide to interactive fiction

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Forthcoming game dev workshops from Ukie

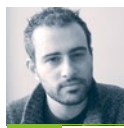


CityCraft: A game urbanism bookshelf

Konstantinos lists some essential books that will help shape and structure your virtual city

Architectural Reading

Urbanism and architecture are two distinct disciplines, but just as individual buildings must often be considered within their civic environment, so does planning have to take architecture as an important aspect of urban space into consideration. So, even if you are not looking to design stunning facades or functional living spaces, a rudimentary understanding of architecture is often required. Matthew Frederick's *101 Things I Learned in Architecture School* is a great introductory read, whereas Julia McMorrough's *The Architecture Reference & Specification Book* is an invaluable reference guide.



AUTHOR
KONSTANTINOS DIMOPOULOS

Konstantinos Dimopoulos is a game urbanist and designer, currently working on the *Virtual Cities* atlas, and consulting on several games. game-cities.com

Imagining a complete city is not an easy thing to do. Imagining and designing a city from scratch within the constraints of a video game can be even more taxing, especially considering the technical hurdles, unexpected costs, and game design requirements involved. A lot of thought has to be poured into the creation of any urban environment that is to be interesting, and immersive; a lot of knowledge too, which I hope the books I'm suggesting will provide you with. Keep in mind, though, that cities are incredibly complex, and that these books could never hope to cover everything. I have been studying urbanism since the late nineties, and yet every single game city I've worked on required at least a few hours of additional research.

URBANIST BOOKS

The City in History | Lewis Mumford

An exquisitely written tome that goes beyond merely presenting readers with the exciting story of urbanism from the Neolithic to the modern era. It actually attempts to define the essence of the city, identify its core, and understand its functions, while presenting readers with a

journey through human evolution, philosophy, architecture, planning, politics, and art. Mumford's classic book will provide students of urbanism with a strong foundation to build on.

Cities of the World: A History In Maps
Peter Whitfield

A stunning book that crams centuries of civic history and cartography into its lush pages. Major cities across all continents and eras are presented, along with unique insights into their specific histories. And if you appreciate the 16th-century map of Venice by Ignazio Danti included in its pages, you might also be interested in the 230 map plates found in the *Cities of the World* anthology by Georg Braun and Franz Hogenberg.

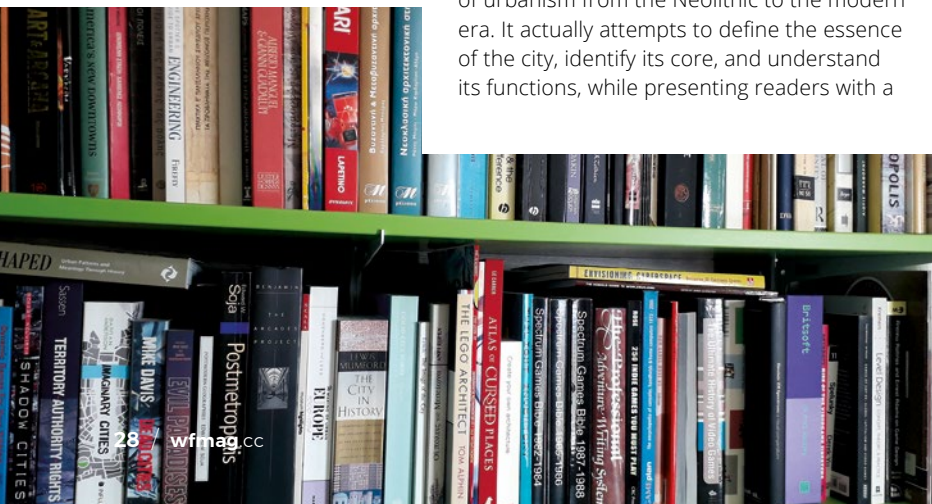
Good City Form | Kevin Lynch

Despite its narrower scope, this is another classic that defined contemporary urbanism. It focuses on the visual aspects of the city, and can thus be crucial for the mostly visual medium of video games. *Good City Form* examines the physical forms of the city, its image, its planning, its design, and its structure, and provides guidance in creating easy-to-navigate, legible spaces.

Key Concepts in Urban Studies
M. Gottdiener and Leslie Budd

This was the book I used the most when I was actively teaching people about civic geography and planning. It is concise, excellently researched, up to date, and succinctly covers an impressive variety of subjects from housing

✓ A few of the books I like to keep within arm's reach while working.





▲ Italo Calvino was thanked in the credits of indie classic, *Braid*. I believe he would have appreciated that.

and gentrification to the models of urban growth and suburbanisation.

The Spotter's Guide To Urban Engineering Claire Barratt and Ian Whitelaw

A book that covers everything regarding the foundations of the modern city. Core engineering knowledge has been condensed, illustrated, and presented in a way that will make sense to just about everyone. Infrastructure, materials, technologies, roads, nuclear plants, communication networks, sewage systems, and other often ignored but crucial elements of the urban tissue are presented in a useful, easy to implement way.

Ideal Cities | Ruth Eaton

A wonderful work on civic utopia, brimming with ideas and utopian suggestions, that can effortlessly be coupled with the dystopian warnings of *Evil Paradises* (edited by Mike Davis and Daniel Bertrand Monk). The latter is a provocative, varied, and thoughtful collection of texts examining how the (admittedly innovative) utopias of the rich are bound to become the dystopias of the poor. *Evil Paradises* features the words of urbanists, geographers, architects, planners, historians, and novelist China Miéville.

City of Quartz | Mike Davis

Described as the text that predicted the Rodney King riots, *City of Quartz* excavates the future in Los Angeles by exploring an immensely intriguing, brutal metropolis with a history of breakneck evolution. It showcases just how complex, dynamic, and vibrant a city can be, while simultaneously telling a story involving Raymond Chandler, Bertolt Brecht, and some absolutely classic jazz. Accompany it with Spiro Kostof's seminal *The City Shaped*, about urban patterns and grids, and Christopher Alexander's *A Pattern Language*, and you'll have safely covered the fundamentals.

IMAGINARY, PLAYFUL WORDS

Imaginary Cities | Darran Anderson

This one isn't aimed at planners or architects. Instead, it inspiringly moves from Cavafy's barbarians and Wright's unrealised projects to revolutionary Hungary, post-revolutionary Russia, and wild sci-fi urbanism, only to return to Bruno Taut, the pirate utopia of Libertatia and the Great War heroics of Gropius. It's packed with ideas and solutions.

Invisible Cities | Italo Calvino

Not a technical handbook, but a work of literature that is adored by every single urbanist and geographer I have ever met. It follows Marco Polo as he explores dozens of terrifyingly imaginative cities, and describes them to the ageing Kublai Khan. Each city is fundamentally unique, and over the two or so pages dedicated to these fantastical places, the author explores a different idea. One city appears differently depending on whether it's approached from the desert or the sea. Another city might hang over a yawning abyss, or sit atop a huge necropolis of its fully preserved past.

The Kobold Guide to Worldbuilding

Edited by Janna Silverstein

A collection of articles not about building cities per se, but about crafting worlds. Cities, after all, do not (usually) float around in abstract space. This guide will help you create a believable setting for your towns complete with its geography, technology, religion, cultures, history, and nations. Map-making advice is also provided.

A Burglar's Guide to the City

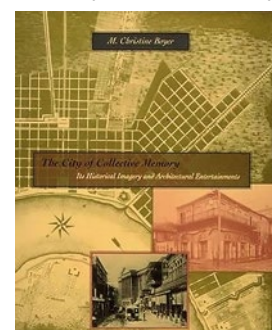
Geoff Manaugh

Finally, this book offers a vastly different approach to the urban environment from a burglar's perspective, which, uniquely, isn't constrained by things like doors, and the accepted use of urban space. Although Manaugh's book isn't as thorough as I'd have liked, the *Burglar's Guide* is a fine source of inspiration, and a very handy tool when it comes to approaching urban-based level design. It actually made me think of the alternate approaches to the use of civic space by, say, a beggar, a dissident, or a plumber. 🐼

Miscellaneous Words

Cities are incredibly varied beasts. They're vibrant stages encapsulating all aspects of human life, and I honestly cannot imagine how someone could ever hope to describe Paris without mentioning its painters (or chefs), or how someone could talk about Milan without discussing opera, or New Orleans without mentioning jazz. Civic life is rich, and urban geography encapsulates all of its aspects, meaning that wide reading is always a great idea for planners of both real and imaginary cities. Theatre, art, sociology, music, history, politics, philosophy, and of course literature are all crucial.

▼ A cheeky way of sneaking in one more suggestion: Christine Boyer's excellent *The City of Collective Memory*.



Post-production and an era of endless updates

In the first of a new series, *Batman: Arkham* producer Reid Schneider shares his industry experience – beginning with the changing face of post-production



AUTHOR
REID SCHNEIDER

Reid is the producer of *Splinter Cell*, *Battlefield Vietnam*, *Army of Two*, *Batman: Arkham Origins* and *Batman: Arkham Knight*. Follow him on Twitter: [@rws360](#)

Surviving the big bang

Many publishers and developers who relied too heavily on making licensed titles couldn't survive the big bang. Full transparency: I worked with Eurocom on *Batman Begins* for PS2, and they were a tremendously talented team. Unfortunately, their business model was steeped in licensed products, and they could never emerge from that side of the business. With that being said, some of the people who worked there are rock stars who I still consider friends to this day.

As game developers, we almost always bullshit ourselves into thinking we can fix problems at the end of a production, or in 'post'. Mostly, though, we end up massively compressing our schedule at the end of development, and effectively shoot ourselves in the face. This article is designed to give you a better insight into how to build a schedule that gives you the time for both quality and efficiency.

In the 1990s, game development was still very much a 'hobbyist' industry, and hadn't yet exploded into the mainstream – at least in Europe and North America. This is probably

best illustrated by the lack of standardised tools (engines, middleware) that could be purchased or licensed.

There were, of course, a couple of notable exceptions, like id Software's Quake Engine, but for the most part, companies built their own engines, APIs, and libraries. Then there was a big bang, which brought gaming into the mainstream, and with that shift came a greater expectation in terms of quality and awareness from the mass market. That big bang was *Grand Theft Auto III*.

In a post-*GTA 3* landscape, consumers gained an appetite for bigger worlds, larger interconnected gameplay systems, and better-written and more believable characters. This transformed the gaming landscape, as developers were required to think about these factors as a determinant for a game's ultimate quality. It also came at a time when Epic burst onto the scene as an engine licensor who could legitimately challenge id Software. All of this

✓ At Ubisoft, we licensed an early version of the Unreal Engine to build the original *Splinter Cell* and *Rainbow Six* games.





▲ During the development of *Batman: Arkham Knight* for consoles, we had a solid amount of time from the end of production through alpha, beta, and gold.

spelled trouble for developers of lower-end games based on movie, TV, and toy licences.

With the rapidly growing mainstream popularity of games, and the need for higher-quality visuals and gameplay, we needed solutions – and fast. Many of us turned to licensed engines as the panacea that would help us achieve these extreme levels of quality. Unfortunately, we were wrong. Game Engines are just tools that will help you on your way to building a quality product – they won't take average work and make it shine. The only way to achieve quality is to hire exceptionally talented people, iterate in post-production, and always return to the creative focus. So how does all of this relate to post-production?

“In a post-GTA3 landscape, consumers gained an appetite for bigger worlds”

CHANGING SCHEDULES

In the prehistoric era of game development, schedules were simple and generally more linear: pre-production, production, alpha, beta, gold. For example, let's say a developer has 24 months to build a game. It would break down like the following: eight months of pre-production, twelve months of production, and four months of post-production (alpha, beta, gold). Also, 'gold' equalled 'fire and forget' – or ship and hope for the best – as consoles didn't yet have the ability to patch games. Thus, whatever went in the box was what the customer experienced. Full stop.

Today, games frequently launch in varying states of completeness. Even when a game is 'gold', it's still subject to revision through patches and updates – very often on day one of its release.

In the new world, a schedule breakdown in months (like the example above) is a recipe for disaster. The *minimum* time breakdown a

developer should think about in terms of a ratio is the following: one-third pre-production, one-third production, and one-third post-production. Though I've never worked at either Blizzard or Nintendo, I believe this is how they achieve such high levels of quality. For example, *The Legend of Zelda: Breath of the Wild* was perpetually delayed because Nintendo needed all the time in post-production to ship the game that matched the exceptional vision they had in mind. This is the main reason why launch dates are so hard to

pin down, and delays happen frequently. I've worked with the talented folks at Rocksteady (who also live and die by quality standards), and I

know that they're fiercely focused on having an extended alpha-beta period to iterate and drive qualitative results.

To summarise, if you're a developer working in any form of gaming right now, you need to think that post-production should represent at least one-third, or ideally more of your schedule. Audience expectation, combined with the quality bar set by your competition, is simply too high. The days when developers could try to rush everything in at the end, and beg the department of miracles for a win, are over. If you're in any position of authority – or even if you're not – try to align your team on building a schedule that gives ample time for post-production. In short, use this new model of game development, and not the old one. 🗣️

Silent Revisions

Many people don't know this, but in the PlayStation 2 era, publishers would sometimes issue a 'silent update' when a game was popular enough to merit a second run of discs. This was used to correct some type of critical issue or glitch that was found post-launch or late during a first party certification – at EA, we did this on *Medal of Honor: Rising Sun*. By the way, this isn't meant as another reason to hate on EA – even the most beloved companies (like Apple) do silent revisions all the time.

▼ At our new studio, Typhoon, we're still using Unreal Engine on our first title, *Journey to the Savage Planet*.





Recreate Pang's sprite spawning mechanic



AUTHOR
RIK CROSS

Rik shows you how to recreate the spawning of objects found in the balloon-bursting arcade gem, Pang

Programmed by Mitchell and distributed by Capcom, *Pang* was first released as an arcade game in 1989, but was later ported to a whole host of home computers, including the ZX Spectrum, Amiga, and Commodore 64. The aim of *Pang* is to destroy balloons as they bounce around the screen, either alone or working together with another player, in increasingly elaborate levels. Destroying a balloon can sometimes also spawn a power-

up, freezing all balloons for a short time or giving the player a better weapon with which to destroy balloons.

Initially, the player is faced with the task of destroying a small number of large balloons. However, destroying a large balloon spawns two smaller balloons, which in turn spawns

"Pang was the game that took the sphere-hating concept to the masses"

take in my example is to use various features of object orientation (as usual, my example code has been written in Python, using the Pygame Zero library). It's also worth mentioning that for brevity, the example code only deals with simple spawning and destroying of objects, and doesn't handle balloon movement or collision detection.

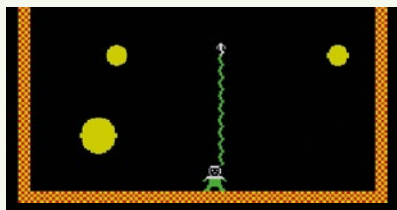
The base **Enemy** class is simply a subclass of Pygame Zero's **Actor** class, including a static **enemies** list to keep track of all enemies that exist within a level. The **Enemy** subclass also includes a **destroy()** method, which removes an enemy from the **enemies** list and deletes the object.

There are then three further subclasses of the **Enemy** class, called **LargeEnemy**, **MediumEnemy**, and **SmallEnemy**. Each of these subclasses are instantiated with a specific image, and also include a **destroy()** method. This method simply calls the same **destroy()** method of its parent **Enemy** class, but additionally creates two more objects



two smaller balloons, and so on. Each level is only complete once all balloons have been broken up and completely destroyed. To add challenge to the game, different-sized balloons have different attributes – smaller balloons move faster and don't bounce as high, making them more difficult to destroy.

There are a few different ways to achieve this game mechanic, but the approach I'll



HIDDEN HISTORIES

Pang was a widely-ported hit in 1989, but its concept originates even further back in video game history. *Asteroids* pioneered a markedly similar brand of spawning, splitting enemies in 1979, but *Pang*'s clearest antecedent is the 1983 game *Cannon Ball*, released for the MSX and later the ZX Spectrum as *Bubble Buster*. Released by Hudson Soft, *Cannon Ball* is markedly similar to *Pang*: it has the little guy running around at the bottom of the screen, the dividing balloons, and even the distinctive harpoon weapon. But with its chunky graphics and minimal sound, it's easy to see why *Pang* – with its colourful characters and wealth of power-ups – was the game that took the sphere-hating concept to the masses.

nearby – with large enemies spawning two medium enemies, and medium enemies spawning two small enemies.

In the example code, initially two **LargeEnemy** objects are created, with the first object in the **enemies** list having its **destroy()** method called each time the **Space** key is pressed. If you run this code, you'll see that the first large enemy is destroyed and two medium-sized enemies are created. This chain reaction of destroying and creating enemies continues until all **SmallEnemy** objects are destroyed (small enemies don't create any other enemies when destroyed).

As I mentioned earlier, this isn't the only way of achieving this behaviour, and there are advantages and disadvantages to this approach. Using subclasses for each size of enemy allows for a lot of customisation, but could get unwieldy if much more than three enemy sizes are required. One alternative is to simply have a single **Enemy** class, with a **size** attribute. The enemy's image, the entities it creates when destroyed, and even the movement speed and bounce height could all depend on the value of the enemy size. 🐼

Pang balloons in Python

Here's Rik's example code, which recreates *Pang*'s spawning balloons in Python. To get it running on your system, you'll first need to install Pygame Zero – you can find full instructions at wfmag.cc/XVIIeD

```
class Enemy(Actor):
    # static list, to keep track of all enemies
    enemies = []
    def __init__(self, **kwargs):
        super().__init__(**kwargs)
        # add enemy to the enemies list
        self.enemies.append(self)
    def destroy(self):
        # remove self from the enemies list
        self.enemies.remove(self)
        self = None

class LargeEnemy(Enemy):
    def __init__(self, **kwargs):
        # all large-sized enemies have the same image
        super().__init__(image='large_enemy', **kwargs)
    def destroy(self):
        # spawn 2 medium-sized enemies when destroying
        m1 = MediumEnemy(pos=(self.pos[0]-40, self.pos[1]-40))
        m2 = MediumEnemy(pos=(self.pos[0]+40, self.pos[1]+40))
        super().destroy()

class MediumEnemy(Enemy):
    def __init__(self, **kwargs):
        # all medium-sized enemies have the same image
        super().__init__(image='medium_enemy', **kwargs)
    def destroy(self):
        # spawn 2 small-sized enemies when destroying
        s1 = SmallEnemy(pos=(self.pos[0]-20, self.pos[1]-20))
        s2 = SmallEnemy(pos=(self.pos[0]+20, self.pos[1]+20))
        super().destroy()

class SmallEnemy(Enemy):
    def __init__(self, **kwargs):
        # all small-sized enemies have the same image
        super().__init__(image='small_enemy', **kwargs)

# start with 2 large-sized enemies
l1 = LargeEnemy(pos=(300, 150))
l2 = LargeEnemy(pos=(150, 300))

# destroy the first enemy in the enemies list
def on_key_down():
    if len(Enemy.enemies) > 0:
        Enemy.enemies[0].destroy()

# draw all enemies in static enemies list
def draw():
    screen.clear()
    for e in Enemy.enemies:
        e.draw()
```



Learn how to make a Twine game? >Yes | No

Make your first piece of interactive fiction with our beginner's guide to Twine



AUTHOR
ANNA BLACKWELL

Anna Blackwell is a freelance game journalist and hobby game designer in both the digital and tabletop worlds. Check her out at Blackwellwrites.com

Predating the graphic-heavy worlds of point-and-click adventure games, an old god commanded the attention of computer owners across the world: text adventures, or as we refer to the genre now, interactive fiction.

Interactive fiction, or IF, refers to any video game in which player interaction centres on text. The interaction could be through the traditional parser format, in which players type simple commands that the game reads and responds to, or it could be through clicking links to move

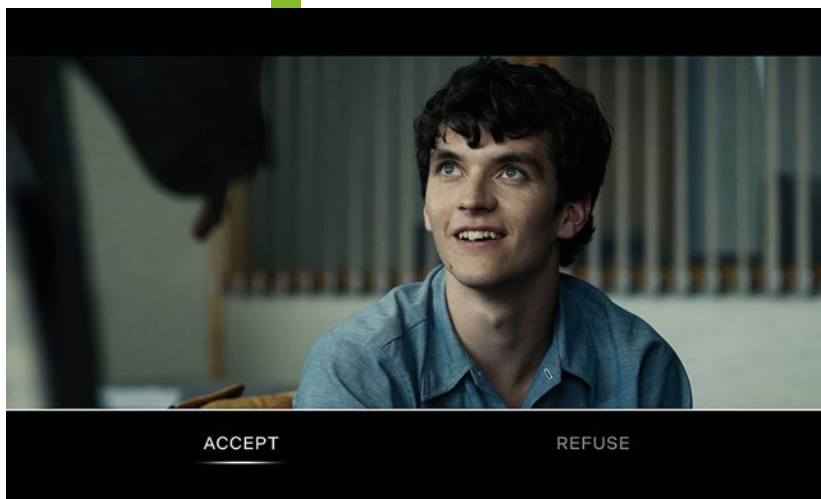
between pages and make choices. It could even stretch as far as the wonderful world of visual novels if you're so inclined.

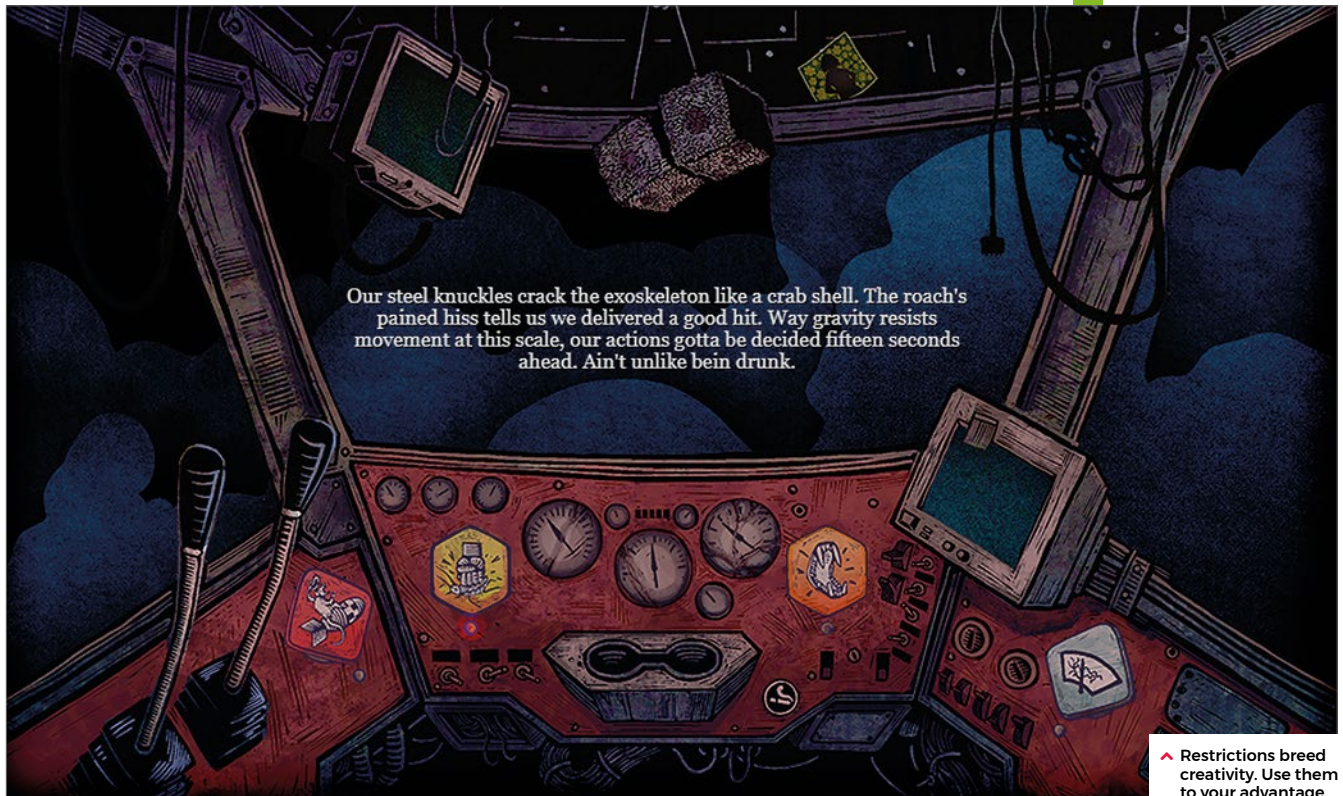
Since the genre's inception in 1975 with Will Crowther's *Adventure* (later named *Colossal Cave Adventure*), the IF community has grown, evolved, faded, and grown again. And while the days of commercial hit IFs have seemingly passed, there is still an audience out there; just take a look at the interactive fiction tag on itch.io. The quiet little genre has been mostly ignored by the mainstream in recent years, but has been wholeheartedly embraced by LGBTQ+ and feminist game developers (as well as erotica writers, but that's a story for a different article).

The experimental nature of the genre allows designers to explore new frontiers and experiences. *Queers In Love At The End of the World* by Anna Anthropy takes the idiosyncrasies of the IF genre and creates a game that is all about reading and making choices as time rapidly runs out. It's an incredibly clever and profound piece that likely wouldn't work in any other medium.

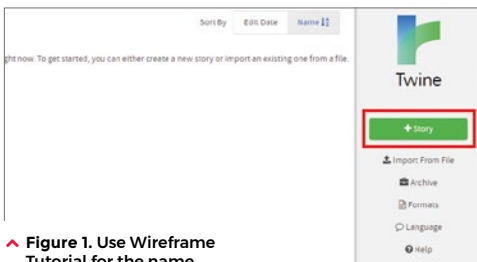
A large part of the genre's appeal is the ease of entry granted by free streamlined development environments like Quest, Squiffy, and Twine. And while each dev environment has its strengths, in this guide, we're focusing on Twine, and how to make a choice-based/hyperlink style IF.

♥ The illusion of free will as presented in the *Black Mirror* episode, *Bandersnatch*.





^ Restrictions breed creativity. Use them to your advantage.



^ **Figure 1.** Use Wireframe Tutorial for the name.

WHAT TWINE CAN DO

Twine can do a lot of cool stuff. It can't make an arcade-style game like *Snake*, but thanks to the ability to use JavaScript and CSS to add more functionality and completely change how your game looks, the possibilities stretch ever onward. At its most basic, you can use images, audio, transitions, coloured text, and loads more to make your game feel like more than 'just another text adventure'.

Images can be used as backgrounds in order to ground the game in a specific locale, as shown in *The Uncle Who Works For Nintendo* by developer ztul. As you move between the different rooms in the house, the background image changes to show you where you are. While *The Temple of No* by Crows Crows Crows

uses images in the body of the text in order to detail the world and provide visual humour. Which is a very dry way of saying, they added funny pictures to make you laugh.

Others, like *Mama Possum* by Bravemule, make clever use of CSS to change up the usual interaction. In this case, putting you in the cockpit of a mech and having you press the punch, bite, missile, or window wiper buttons to fight kaiju-cockroaches. All of which is set to an ambient country track that grounds the story in the world.

Part of the joy in making Twine games, for me at least, is to see what can be done within the limitations of the engine. And while clever coding can make a game stand out, it all comes down to the writing in the end. This tutorial will show you the basics of making your first Twine game, and while we won't be diving into the CSS or JavaScript aspects, be aware that they're available once you've learned the basics.

GETTING STARTED

To get started, go download Twine for free from twinery.org – make sure to get the latest version (2.2.1 at the time of writing). To make a new project in Twine, click the green +Story button and give your game a name (see **Figure 1**). ➔

PLOTTING WITH TWINE

Twine can be a useful tool not just for making games, but also for helping plot out branching narratives. *Black Mirror* writer Charlie Brooker mentioned that he used Twine to help plot out the structure of the interactive *Black Mirror* episode, *Bandersnatch*, which follows a game developer creating a choose-your-own-adventure game of the same name. Being able to actually navigate through the decision points of your narrative can be immensely useful, not just in IF games but in any choice-heavy medium.

➤ **Figure 2.** Keeping your story organised will make life easier in the long run.

INTERACTIVE FICTION COMPETITION

Opening for registration on June 1, the IFCOMP is an annual competition that celebrates all aspects of interactive fiction. Having grown in popularity since its inception 24 years ago, the competition now offers a prize pool of \$9000 for the best games. Or, if you'd rather just have more IF games to play, you can act as a judge. Just make an account, play, and score at least five games during the judging period. ifcomp.org



The project will open with an empty launch passage and should look like the image above (Figure 2).

Before we get into making our game, let's take a minute to look at what these different parts are:

1. This Untitled Passage is your game's starting point. The green rocket icon shows that when you launch your game, this will be the first passage your players see. We'll open this in a moment.
2. The Play button will launch your game and let you play it as your players will see it. The Test button lets you open the debugger and see what's happening with the code while you play.
3. The +Passage button places an empty passage in your workspace. This is useful for when a link fails to auto-generate a passage.
4. The Home Button lets you go back to the screen above and to choose which story you'd like to work on/start a new story and to check your version and language.
5. Clicking your Story Name opens a drop-down menu that lets you: edit the JavaScript and style sheet, rename the story, toggle grid snapping for passages, publish to file, and change format.
6. Each of these grids changes the Zoom, allowing you to see the title and excerpt, title, or just the links between passages at minimum zoom.

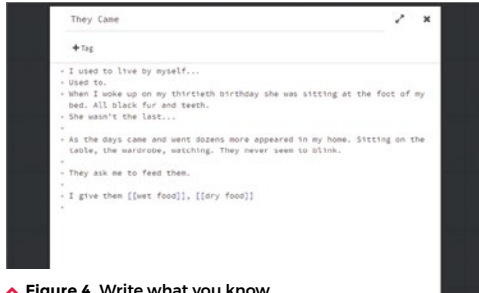
During this guide, I will be providing the syntax for the Harlowe 2.0.1 and SugarCube 2.18.0 formats. Each has its own strengths. The Twine 2 guide explains what these are quite well, so here's a brief quote:

"Harlowe is the default story format, and is focused on making it easy to add basic interaction to your stories in a readable, concise way. SugarCube comes from the world of Twine 1... you can draw on the vast number of Twine 1-related resources on the web and use them as-is. SugarCube also has the ability for your reader to save their progress into separate slots, similar to a console video game."

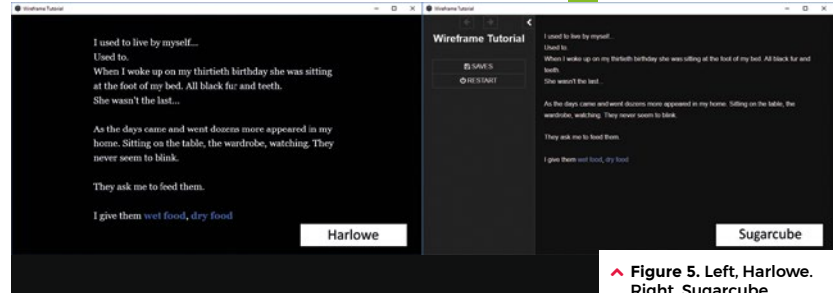
You will also notice Snowman in the format list. This is "a format more suited to those familiar with JavaScript and CSS which implements basic Twine functionality then gets out of your way."



➤ **Figure 3.** Launch, like a spaceship; did you see what they did there?



^ Figure 4. Write what you know.



^ Figure 5. Left, Harlowe. Right, SugarCube.

Sticking with the default Harlowe format, let's create our first passage (see **Figure 3**). Open the Untitled Passage that has the green Launch Icon.

The Untitled Passage is the passage title – this is important for telling Twine which passage you want to move to when you click a link. For example:

```
[[Leave the house|Outside]]
```

The brackets define this as a link. The 'Leave the house' text is what is displayed to the player and the 'Outside' text is the name of the passage you want to move to. Or, for shorter stories, you can simply write a link as **[[Text]]** where 'Text' serves as both the in-passage text and the title of the passage to move to.

The tag section allows you to attach tags to keep track of whatever you want to keep track of. Common tags are things like location, timeline numbers, notes, or characters. Some special tags exist that allow you to create style sheet passages, JavaScript passages, or in Harlowe's case, a startup passage that initialises any variables you put into it.

And finally, the body, which is the part where you can actually write your game. Either put my text in or come up with your own – the important part is to include two links/choices at the bottom (see **Figure 4**).

In Harlowe, each line is accompanied by a bullet point and looks almost like a screenplay. Press the Play button and check to see if your links have worked.

If you're using Harlowe, you'll see that your story is presented quite cleanly with just the text and a back/forward button at the top left. SugarCube, on the other hand, has a helpful sidebar that holds the saves and features a restart button (see **Figure 5**).

If you've written your links correctly, you should see two new passages with your link text as the passage title.

Links are the most basic form of functionality and you can do some interesting things with them, but Harlowe also has some other important functions to consider.

In the wet food passage (**Figures 6a & 6b**), we have two options: firstly, 'What do you want from me,' which is a link. And 'I grabbed the sword from the wall...' which is a Hook.

Hooks can be used to style specific portions of text or to apply functionality to them as we have here. By enclosing text in single [] brackets we have told Twine that the text is a Hook. By attaching a name tag to the end **<fight>** we create a Named Hook

which can be called on later in the passage. This is great for creating cleaner-looking passages, but it can also make large games run slower.

At the end of the passage we then call the **(click:)** command, which runs the Hook it's connected to if the hook named 'fight' is clicked. So when we click 'I grabbed the sword from the wall and swung' it gets replaced through the **(replace:)** command, which means we now see a Link saying, 'They were too quick'. ➡



OTHER ENGINES

Not a fan of the Twine hyperlink style of IF? Well, you're in luck, as there are a number of great engines for creating all manner of IF. For parser-style interactive fiction (Look At, Use, Go) there's the powerful but somewhat clunky Quest. Fans of *Fallen London*, meanwhile, may be happy to learn that StoryNexus, the engine that drives its particular style of IF, is free to use and already home to a bunch of other great games. Or, if you just want to make some good, old-fashioned visual novels, Ren'py has you covered with a language that reads much like a screenplay, with some Python coding to help beef it up.

◀ Figure 6a. Harlowe's colour coordination is easier to follow for newer coders.

Toolbox

Learn how to make a Twine game

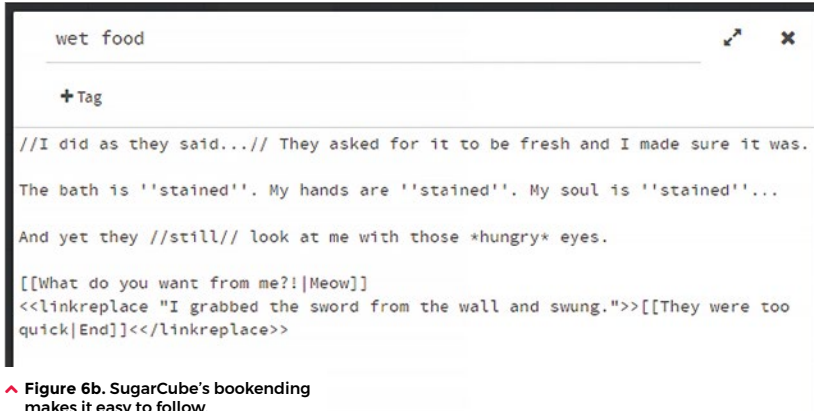


Figure 6b. SugarCube's bookending makes it easy to follow.

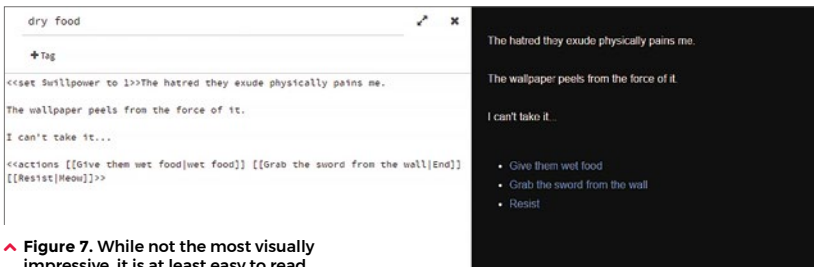
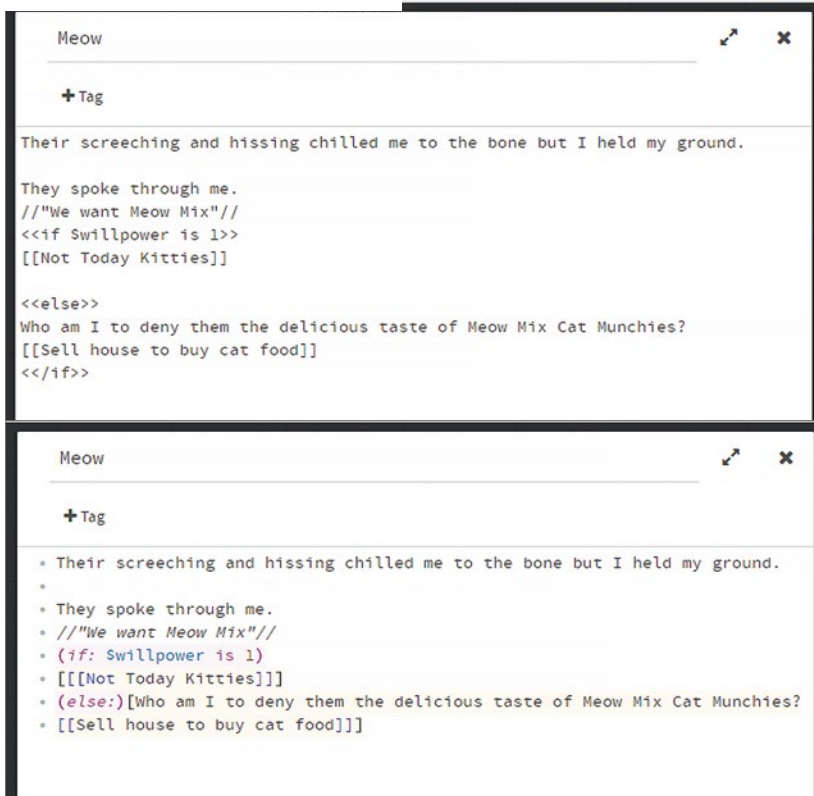


Figure 7. While not the most visually impressive, it is at least easy to read.

Figure 8. Below, SugarCube. Bottom, Harlowe.



The same effect can be achieved in SugarCube using `<<linkreplace>>`. And, specifically for SugarCube, we can create a more compact choice list by using the `<<actions>>` command to create a bullet list (see Figure 7).

Now, clicking links and exploring is alright, but if you want your game to be fun, you need to have a little gameplay. Let your player find items, change the world, and interact with things – all of this can be done through the magic of variables.

In both Harlowe and SugarCube, variables are marked with a \$ sign, but how they are interacted with varies. For Harlowe, setting the value or content of a variable is written as:

`(set: $variable to x)`

whereas SugarCube is written as

`<<set $variable to x>>`

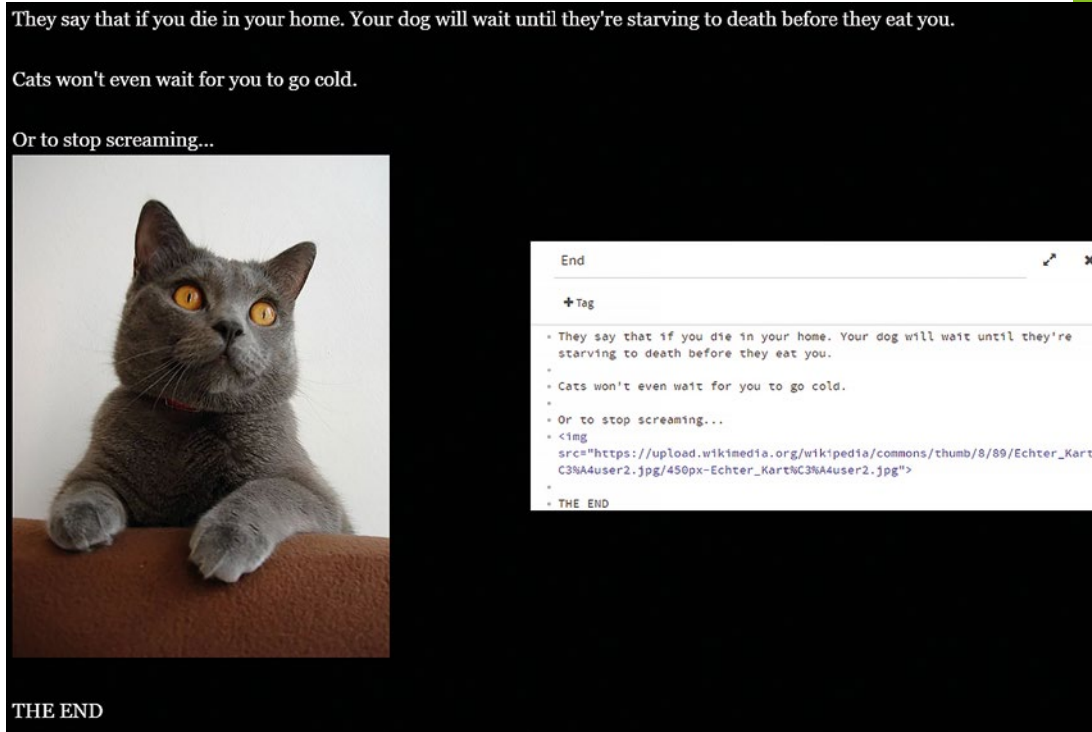
This syntax continues on to `if` statements as well – Harlowe requires you to place the `(if:)` command with the contents enclosed within single brackets [text and code]. SugarCube, meanwhile, has you open and close the `<<if>>` statement around the contents `<</if>>` (Fig 8).

“If all goes well, then you should now have a basic Twine game”

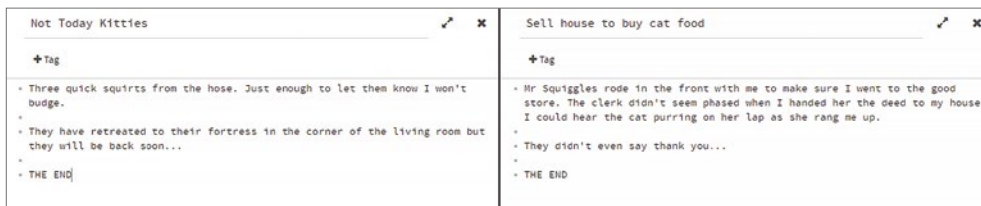
Now to check to see if it works. To make this easier, and to help visualise what could be going wrong, click on the Test button. This will launch the game and allow you to turn the Debug View on. If you flick this on, you should see your Links have the word Link next to them. Both Harlowe and SugarCube look a little different in their Debug Views (see Figure 9).



Figure 9. Personally, I find Harlowe's debugger (pictured) much more useful.



◀ **Figure 10.** The code for including an image in Harlowe.



◀ **Figure 11.** Make sure to test each of your paths to ensure you haven't missed anything.

The Debug View will tell you what a command is. In this case, a link to a new passage with a super-text showing the title of the target passage, and a set command. It will also tell you what variable has been set to what with a handy tracker just above the Turns log.

If there are any errors, go back to them in the editor and check for typos or missing syntax. Most of the time, errors are caused by missing brackets.

And lastly, the end passages.

"Shudder". That's right – the horrible creatures from the story were cats, and that picture really hammers home how evil they can look (**Fig 10**).

As mentioned at the beginning of the tutorial, Twine is capable of supporting images, audio, and basically most things a webpage can do. So to show the true horror of our villains, we

can include an image using the `` command (SugarCube – `[img[link]]`). What's important to note here, though, is that you can't embed images into Twine; it needs to be able to check a non-private URL to get the images. I recommend using Imgur.

Make sure to test again after putting in your end passages (see **Figure 11**). If all goes well, then you should now have a basic Twine game. Experiment with these basic commands and get used to making some simple games, and once you're ready to progress, have a look at the documentation for Harlowe at wfmag.cc/twine2 and for SugarCube at wfmag.cc/sugarcube. If you use this tutorial to make something cool, be sure to share it – there's a passionate interactive fiction community out there that's always hungry for new experiences. ☺

IFWIKI

The interactive fiction (IF) community is passionate about the medium, and have loads of things going on – which is where the IFWiki comes in. With overviews and download links to IF games, information on past and upcoming competitions, jams, and events, the IFWiki is indispensable for keeping up to date. Check it out at ifwiki.org.



Designing welcoming multiplayer games

What can we do as designers to make sure our multiplayer experiences avoid online toxicity?



AUTHOR
FERNANDO REYES MEDINA

Fernando is a Technical Game Designer currently working on *Halo Infinite*. He believes in the democratisation of gaming.
[@itsameFernando](#)

It's 2004, and I've been playing *Halo 2* with OmegaDragon for over seven hours. OmegaDragon was some kid living in Germany, and I was from Mexico City; we were thousands of miles apart, but we became connected by playing together. These and other moments made me realise how effectively games can foster relationships and positive interactions.

The online gaming landscape has changed dramatically over the past 15 years. While online toxic behaviour isn't exclusive to games, games have a unique way of influencing human behaviour. As designers, we need to remember that every decision we make can affect the way players interact with each other.

ISOLATING THE PROBLEM

Disruptive behaviour in online games, often known as toxicity, ultimately refers to any behaviour that leaves another player feeling threatened or devalued. This behaviour can manifest in the form of gameplay, verbal abuse, or text-based chat. The recent rise of online toxicity comes from factors like:

Anonymity. Behind the screen, players can adopt any persona they like, making it harder to hold players accountable for negative behaviour.

Community size and background diversity.

Gaming communities were once groups of like-minded individuals with shared interests. Nowadays, they're composed of a broader audience with different backgrounds, play styles, personalities, and motivations. These differences might result in conflict and confrontation.

Mismatched intentions. Increased focus on competition leads to frustration when players aren't in agreement. Are you playing for fun, or for the win? This question has become harder to answer in competitive environments, like esports.

Illusory correlation. Without knowing why a match ended the way it did, a player is more likely to blame a negative outcome on the wrong reason, such as technical issues or other players.

▼ Figure 1. Gwent's GG (Good Game) System.

GG REWARDS





Emotional investment. As with physical sports, video games can trigger a torrent of emotions that come with a loss or a win. While this list isn't exhaustive, it's important to mention that toxic behaviour is a grey area: what might be toxic to one person could be fine for another.

Many of today's solutions are implemented on a platform level and are focused on the communication layer. Muting players or reporting systems are often an after-the-fact Band-Aid to address the symptoms rather than the disease. We should think about how to solve the problem before it happens in subtle yet effective ways.

BUILDING FRIENDLIER GAMES

Online toxicity is a complex problem, and this isn't a catch-all for every multiplayer experience. Consider these points as a call to action as you design your game.

Reduce punishment for negative outcomes.

Failing should be fun. A negative outcome, like a stolen kill, can lead to frustration, so informing players of what caused the negative result is important – don't let them decide for themselves. Reward effort and outcome accordingly with things like your scoring system, or using the right language to make players feel less punished.

Example: Recent *Call of Duty* titles handle kill assists by awarding more points to the assisting player as well as using the term 'defeated' instead of 'assist', giving a sense of accomplishment.

Consider what gameplay data players see.

In team-based games, it's useful to know the current state of other players. External performance data is great for strategy, but could be weaponised for conflict. Obfuscation of certain data or positive performance emphasis leads to a more welcoming environment, and encourages better behaviour among players.

Example: *SpyParty* handles public-facing ranking using 'Spy Wins' and 'Sniper Wins.' Losses aren't displayed, even if they're directly proportional to the Wins.

Choose the right segmentation.

Matchmaking algorithms, ranked and casual playlists, and player filters all help to situate the player in the right bucket based on personal intentions and skill. Ensuring fair matches helps

to reduce the likelihood of putting blame on teammates, which is often a friction point in many online game matches.

Use positive reinforcement.

Create a culture where sportsmanship is respected and rewarded. Incentivise good behaviour by providing in-game rewards and create opportunities for players to show camaraderie between teammates and rivals.

Example: *Gwent* allows players to reward each other by saying "good game" at the end of the game. See **Figure 1**.

Minimise the effect of competitive mechanics.

Complex game mechanics add depth, but can also affect the progression of a player's learning curve and increase the skill gap between players. Your game can be as complex to master as you want, but creating a safe environment with tutorials or introductory hops can help new players avoid friction when playing online.

Example: *Forza 7* has a 'Welcome to Multiplayer' hopper where players can learn the ropes.

Satisfy players through a harmless outlet.

Provide a safe way for players to express emotion. Things like emotes and taunts can help guide how players interact with each other. It's worth noting that players can still abuse this system and be toxic in non-verbal ways, so be cautious here.

Adjust match length based on desired emotional response.

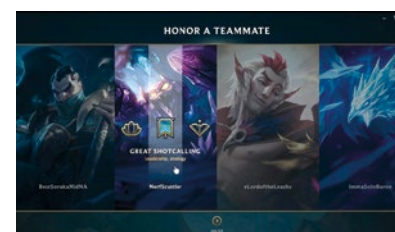
Time can affect the way a player perceives results. Since games have a high emotional investment, there are elevated feelings when one wins, but also equally devastating feelings when one loses. Be sure to reward players for their time – early termination options like surrender systems mean players won't have to fight an unwinnable match.

Games can help us foster relationships, develop skills, and show us new worlds, and online gaming should always provide a safe space where people can have fun. Let's use them to build a healthier, more welcoming community. 🙌

Facilitating effective teams

Role-based multiplayer games have an extra layer of strategy that requires better communication between players. Since success isn't achieved through individual performance, role assignment and correct execution can be a source of conflict as well. *Overwatch*, for example, tries to ease this process by informing players of the composition of the team and suggesting roles that might be needed to succeed. This can also be approached from a matchmaking perspective, where players can choose their desired role to play and only match with other players that require filling that role.

✓ Riot Games have been taking serious steps towards improving the health of *League of Legends* Community through its Honor System.



Directory

Business and money: courses for game devs

Learn more about business strategy and monetisation
in game development in two half-day Ukie courses

GET INVOLVED

Do you have an online course you'd like to share with readers? Have you created an online resource that other game developers might find useful? Maybe you have a local code club you're keen to promote? If you have something you'd like to see featured in the Directory, get in touch with us at wfmag.cc/hello

✓ Should your game be free-to-play? Find out the best model for your game in Barebones Monetisation.



Living the Dream: Business Strategy for Game Developers – 2 May 2019

Many developers just want to make a game, but if you want to be successful, you need a plan. For every amazing 'survivor' story of a pioneer who made it big, there are countless cases of the games which never made it.

In this workshop, Ella Romanos and Oscar Clark of Fundamentally Games will provide you with a framework that allows you to make better design and business decisions, which will increase the potential of your games.

The workshop will focus on four sections comprising:

- Defining your vision and culture to supercharge decision-making
- Building a proposition your team are willing and able to deliver
- Engagement-led focus for design, discovery, and monetisation
- Validating a viable business strategy

Attendees will learn:

- A step-by-step approach to assess and develop a games business strategy
- Practical tools to improve decision-making
- Peer review of their strategy
- An approach that puts their audience and team at the heart of their business
- A framework to take away and improve their business
- How to evolve their strategy as their business grows

Barebones Monetisation: Creating Value for Players – 2 May 2019

Over the last 20 years, developers and publishers have been adapting the craft of game-making into revenue models which also work for players. Regardless of platform, we all face the same issue – how will players pay for my game? To answer this question, Fundamentally Games is presenting a workshop to help developers understand how to create value for their players in a way that also delivers an income – without damaging the player experience!

The workshop will focus on four sections comprising:

- What does your player want?
- Engagement-led design and the player life cycle
- Different forms of exchange and positioning
- Retention and repeat purchase

Attendees will learn:

- How to create value based on player needs
- The forms monetisation can take
- What drives players to spend
- Different forms of exchange for game content
- Balancing fiction against player fatigue
- Building scale through engagement-led design

Ukie are offering a two-for-one deal, so attendees can bring a colleague along for free.

Sign up for both half-day events, and you'll get a 50% discount on the second workshop. The two-for-one offer will still apply. To book your place, please get in touch with Leon Cliff at leon@ukie.org.uk.

Location: Ukie, Black Bull Yard, 24-28 Hatton Wall, EC1N 8JH. **Price:** £300 + VAT per person.

Wireframe

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^ Andrew and Philip Oliver have worked together throughout their careers and appear as enthusiastic about gaming as ever.

Double Dragon

WRITTEN BY
DAVID CROOKES

With a dizzying array of games behind them, Codemasters veterans Andrew and Philip Oliver now hope to share their wisdom with other British developers

^ From the egg-shaped 2D adventure *Dizzy* to the 3D platformer *Chicken Run*, Andrew and Philip Oliver have had to move with the times.



British game designers Andrew and Philip Oliver have done pretty well for themselves. They can look back over a career spanning four decades – smiling at the highs, and sometimes grimacing at the lows. These are, after all, the brothers who created some of the British games industry's most iconic titles, chief among them the cult adventure series, *Dizzy*. In the process, the Olivers provided Codemasters with a string of top-selling budget games, before employing many hundreds of staff at Blitz Games Studios, which they founded in 1990.

But although the Olivers have just finished working for Rebellion – which

snapped up their most recent company, Radiant Worlds, in January 2018, mere months after its first and only game *SkySaga: Infinite Isles* was 'put on hold' – their enthusiasm for gaming burns as brightly as ever. So rather than catch their breath, the Olivers have created Game Dragons, a new consultancy firm which they hope will fire up British game businesses. In doing so, they'll draw on their years of experience as creators and businessmen.

"We've got a lot of skills in running companies, motivating people, dealing with investors, pitching, and negotiating games, and communicating with both brand and licence holders," Philip says. "We also have a strong understanding of video game culture, and we're naturally chatty people."



DON'T PANIC!

In the eighties and early nineties, ovoid hero Dizzy became something of a mascot for 8-bit computers. He starred in a series of graphic adventures and several spin-offs, including *Kwik Snax*, *Bubble Dizzy*, and *Dizzy Down the Rapids*. One of them, *Panic! Dizzy* for the NES, went unreleased, but was recently discovered in Philip Olivers' attic and restored by superfan Lukasz Kur. *Panic! Dizzy* was successfully Kickstarted back in February, meaning that, over 27 years after it was originally conceived, the long-lost puzzle collection will finally be getting a release in 2020.

SOUL BROTHERS

The Olivers' years of experience speak for themselves. It's said that, during the late eighties and early nineties, more than 15 percent of all games sold in the UK were made by the brothers. After launching Blitz Game Studios, the Olivers experimented with various spin-off ventures, from the download-focused Blitz Arcade to a more mature label called Volatile Games. Between 2008 and 2011, they launched the Blitz 1UP programme to help indie developers make games, and later replaced that with an online marketplace called IndieCity. And with *SkySaga: Infinite Isles*, they hoped to capture some of the *Minecraft* magic.

By harnessing all of that experience, the Oliver Twins believe they have much to offer game companies in terms of advice and assistance. "You need somebody to lean on, and you need somebody to share the ups and downs of business with," Philip says of his close working relationship with Andrew. He soon adds, though, that things haven't always gone quite so smoothly for the pair.

"I remember back in 1996, when I went to Sardinia for my first holiday in five years," Philip continues. "I landed at the airport, turned the phone on and immediately called Andrew, only for him to reply, 'I can't talk now. Fire, fire, fire, got to get out of the building!'"

It later transpired that a cleaner had emptied a metal bin from the smoking room into a black sack and placed it in the lift, unaware that some of the cigarette

"Andrew was running around, panicking as smoke billowed from the cracks around the lift door"

✓ The Guinness World Records features the Oliver Twins as the "most prolific 8-bit video game developers", with *Grand Prix Simulator* one of their hits.



butts were still hot. "They were just smouldering away among a mountain of paper so the whole flipping lift caught fire," Philip says, chuckling at the memory. "Andrew was running around, panicking as smoke billowed from the cracks around the lift door."

MOVING ON

Such tales pour from the Olivers, and you could easily fill a book with them. In fact, they already have: *Let's Go Dizzy! The Story of The Oliver Twins* was published two years ago, and follows their careers since they created their first work in 1983 – a type-in program called *Road Runner* for the magazine C&VG.

The Olivers have, however, found themselves in a tricky position of late. When Rebellion took on Radiant Worlds' 70 employees and renamed the studio Rebellion Warwick, the Olivers were asked to oversee the transition period, yet they felt their work was complete just one year later. ➤



"It got to a stage where everything was running smoothly and, quite frankly, having both of us there to effectively head up the studio was overkill," Philip says. "It's never a problem if you're running a business, hiring, and overseeing marketing, but when you're one studio within an overall group and they already have others to carry out those roles, then you just have to let them crack on. They have some great people and they all work really well."

Game Dragons is, therefore, the Olivers' opportunity to branch out, and they're targeting three different groups. First, they aim to talk to companies that have IP and brands that can be exploited within the games industry. "We've done a lot of work in the past with Nickelodeon, Disney, DreamWorks, Universal, and Hasbro," Philip explains. "And while a lot of those guys already know the games industry, others understand that it's interesting and exciting, but they don't really know what to do with it because they don't really have any experts in the area."

Second, Game Dragons will look to work with fund managers, corporate and individual investors, buyers, and acquisition companies. "They might think, 'we want to buy this company or we want to invest in this company', or they may be interested in games and have something specific in mind," Philip continues. "With large amounts of money at stake, we can come in and look at what they're trying to achieve, who they

"We saw that text adventures were popular, and this was our graphical, cartoon-like take on it"



▲ *Ghostbusters II* was a big-selling game and one of the Olivers' early full-price titles.

achieve it with, and assess the risks. It's about making recommendations."

Finally, the brothers want to talk to studios that want to scale up. "It's likely they'll be doing OK but think they could do better, and we'll be in a position to give them ideas," Philip adds. "Here we'll be able to look at what worked for us, and advise developers who want to increase their capacity, move to new offices, or fix a broken culture. It might be that they've had key people leave or people in positions that are inappropriate, and they're not sure how to deal with it."

As it stands, though, they're not explicitly looking at the games themselves – unless, of course, a developer insists. You get the sense that Andrew, in particular, would love to give his opinion about the games – "speak for yourself," he chips in when Philip says they won't comment on where a game is going wrong or could be better – but the Olivers firmly believe that a successful developer or publisher mustn't concentrate entirely on the game. "Besides, I'll be honest: I'd have told Notch not to launch *Minecraft* when he did, but that turned out fine, didn't it?" Philip laughs.

Such a stance is based on the Olivers' own career and the observations they've made over the past four decades. "There are many examples of companies making great games that have gone bust, and businesses which have been really successful only for you to look at what they're making and thinking, 'Really, is that what you're successful from?'," says Philip. "The important thing is not to focus entirely on the game and to think about the business as a whole – thoughts about how you're going to acquire users is a science in itself. Will they be paid or free users, and how will you convert from free to paid?"

CHANGING TIMES

Years ago, such issues were less apparent. Developers made games, sold them, and moved straight on to the next; but even back in the eighties, it was still important to make games that people would buy. "When we entered the games industry full-time,



EDUCATING UNIVERSITIES

To help more students find their feet in the video game industry, Andrew and Philip Oliver have been working closely with the British Games Institute on a new education summit called GamesEd19. Taking place at the National Videogame Museum on the 15th and

16th April, it will bring together 40 leaders from universities, colleges, and development studios, with the aim of encouraging closer ties between educators and the industry.

"It's really important that universities understand what's wanted from the games industry, and how best to get people ready for the workplace," says Philip Oliver. "At the moment, a student can very easily go from being lectured by somebody who's never been in the games industry, trying to learn all of the skills they believe will get them a really good job making video games, only to find that studios aren't taking them on because they don't understand the real world. I'm sure lots of good things will come out of this summit."



▲ The Oliver Twins made the jump to the 16-bit era in the early 1990s. (NB: Japanese Sega Mega Drive pictured.)

having decided not to go to university, the first thing we did was think about the market first and consider what we could sell," Philip explains.

Indeed, in coming up with *Super Robin Hood* – a budget-priced platformer published by Codemasters in 1986, when the twins were just 17 – they were deliberately tapping into a familiar name in the public domain.

"After that, we created *Ghost Hunters*, which was influenced by *Ghostbusters* and *Scooby-Doo*, and then we said, 'OK, what else will sell really well?'" Andrew adds. "We considered racing cars, because they're pretty aspirational, which is why we wrote and released *Grand Prix Simulator*. We thought about what people would buy rather than what we could make."

Even so, the Oliver Twins tried to make quality titles with a budget price tag (many of their early games sold for just £1.99): *Super Robin Hood* and the popular platformer *Ghost Hunters*, for example, featured digitised speech, while *Grand Prix Simulator* allowed for competitive two-player races. With sales booming, Codemasters gained confidence in the twins' ability – to a certain degree at least. While the twins were supposed to be making *Pro Ski Simulator*, the Oliver Twins instead created *Dizzy: The Ultimate Cartoon Adventure* behind the back of Codemasters' boss, David Darling. Darling was convinced *Dizzy* wouldn't sell, and only agreed to publish it in order to avoid upsetting the Oliver Twins, because their

previous three games had shot to number one. Eventually, however, *Dizzy* sales took off, resulting in one of the longest-running games series of all time. "We saw that text adventures were popular, and this was our graphical, cartoon-like take on it," Andrew says. "Again, it was about having a hunch for what would sell."

LEARNING FROM MISTAKES

Mistakes have been made, but the Oliver Twins say this was inevitable, as one generation moved to another and new ideas emerged. They're also thankful that their career hasn't been entirely error-free. "I was told years ago that in America if you've got a bankrupt company behind you, you're seen as more employable and more of an expert than if you've got a successful company," Philip explains. "I always thought that was a bit weird, but actually, if you had suddenly got success, you don't know how or why. Maybe you were in the right place at the right time, and it kind of worked for you. But if you've seen failure, then you will have struggled like hell to work out all the mitigating strategies to see which ones work and which ones don't."

The games industry can often be a gamble. Blitz Games Studios, which started life as Interactive Studios, produced games based on well-known brands like *SpongeBob SquarePants* and *Bratz*, and made a lot of money in the process, but the company was not averse to taking calculated risks. *Invincible Tiger: The Legend of Han Tao*, developed by subsidiary Blitz Arcade in 2009, included stereoscopic modes that made use of 3D-ready televisions, but such sets didn't sell as expected, and few saw ➤

SPOTTING TRENDS

The Oliver Twins have had to constantly adapt to a changing market over the years. Their first big jump was from the 8-bit generation to 16-bit, which also coincided with a move from computers to consoles. "In many ways, the decision to leave computers behind in the 16-bit era was easy, because piracy was so rampant and it became difficult to make money," says Philip. "Cartridges couldn't be pirated, so our strategy was to apply the same skills we learned on the Amiga for the Mega Drive."

Later leaps included that from 2D to 3D, and from boxed games to digital. "There are always going to be hurdles," Philip says. "Currently, we're right on the front edge of art and technology, but because technology is moving so fast and art is fickle, you have to keep reinventing yourself. We can draw on strategies we've seen over the years to adapt."



▼ Philip Oliver, pictured at the height of *Dizzy*'s fame.





UNIVERSITY CHALLENGE

Although Andrew and Philip Oliver didn't attend university, their success hasn't gone unnoticed by academia. In 2008, the twins received honorary doctorates from Coventry University, and this year, Philip was made a visitor professor of Stafford University. "We enjoy trying to make a positive difference from the skills and experience that we've got, and I think that going into universities and talking to students on games courses can inspire them," says Philip.

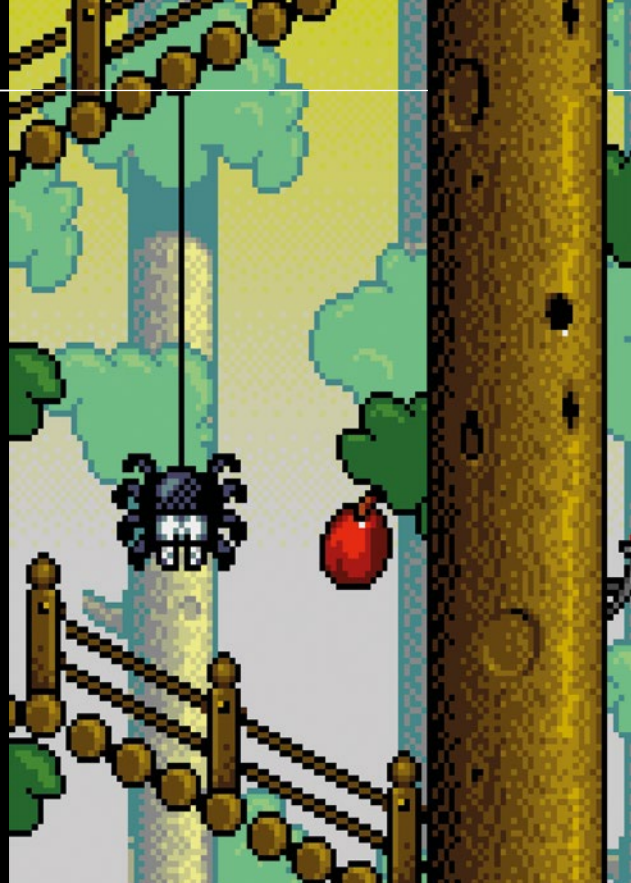


▲ The Olivers made their name producing top-selling budget titles for Codemasters such as *Ghost Hunters*.

the game's impressive graphics as a result.

To that end, Philip says he's learned that it's important for developers to try to predict where the market's going without over-committing – although unexpected problems will still sometimes surface. Blitz closed for good when it went into voluntary liquidation in 2013, resulting in the loss of 175 jobs, though Philip insists this wasn't down to management failure. Rather, he says, its struggles were due to difficult trading conditions – hastened by the global economic crisis – frustrations with clients, and sheer bad luck.

"People were moving away from physical goods and moving towards digital, and the transition of the casual market to towards



smartphones and tablets meant our clients were pulling out of big box, licensed games," Philip says. "THQ went out of business, and Disney pulled out of the sector, and they accounted for 60 percent of our business." Rebellion and Exient took on many of Blitz's staff, while 50 moved with the Olivers to their new company, Radiant Worlds.

"Radiant Worlds wasn't a management failure either," Philip says, adding that, although there are no public figures for the number of players who signed up to *SkySaga's* free-to-play alpha, the game was "very popular". Despite this, Korean publisher Smilegate, which funded the game, nevertheless decided to pull the plug in 2017.

CREATING LOYALTY

Despite all the ups and downs, the company's staff have remained loyal – and treatment of staff is something Philip Oliver's keen to push to the forefront. "It's important to treat people well, and that's a big lesson for a lot of businesses," says Philip. "If you want the best creative people, then you must respect them and treat them properly, because then they'll be with you for many years. It's also important that you understand the power relationship when you sign a contract. If a contract means you won't profit from doing a great job, then your motivation will change. Unfortunately,



▲ Dizzy - starring here in *Fantastic Dizzy* for the Mega Drive - featured in 15 games between 1987 and 1992.



▲ Created by Blitz Games Studios' downloadable game division, Blitz Arcade, *Drotlitz* proved to be a fun puzzler.

a lot of contracts allow the side with the most power to wield it over the other, and it's more about getting one over on them. Only it soon becomes apparent that the relationship is broken and both sides lose."

Such advice extends to the relationship between developer and publisher. It's interesting to note that, despite the trend for developers marketing games themselves, the Olivers continue to recognise the importance of a publisher. Publishers are specialists in marketing and distribution, they say, and can provide much-needed finance. The Olivers also recommend that indies don't go it alone right away; they even advise fledgling developers to get a studio job first to see how the industry works. At the very least, they urge startups to nail down a firm business plan early on.

"When we started developing games, we had to create a business plan, and it's absolutely fundamental that developers do this," says Philip. "But we've had some indies ask us what a business plan is and they don't have anything, which can be worrying - if they're trying to make a living out of games and make money, then there's a lot more to it than just being creative."

It's one of the reasons why the pair aren't currently prepared to nurture indie startups from infancy. "We don't want to



"If you want the best creative people, then you must respect them and treat them properly"



be inundated with an enormous number of companies and become absolutely snowed under," Philip says, "so what we're going to do is offer general advice online to anyone starting out."

They'll do this by posting videos on YouTube about running and investing in businesses, and they intend to write articles, available for free, which delve deeper into similar issues. "We'll be saying, 'Right, we think this is really good advice for indies. Please do follow this advice,'" Philip says.

The Olivers seem undaunted by the task ahead and, indeed, over the course of our interview, it becomes abundantly clear that they're excited about the future. "We enjoy sharing experiences, and also look forward to learning, too," Philip says. "As programmers, we're also analytical, and so we're good at assessing what works and what doesn't."

Nor are the Olivers entirely sure where their new venture will lead. "We don't know where it's going to go, but it should be a fun ride," Philip says. "We're really hoping that we go into some interesting companies, and make them even more successful." ☺

Developer Profile

Konami at 50

Konami celebrates its 50th anniversary this year. We salute its golden age of games

It wasn't what you'd call a banner year for Konami, 2015. Hideo Kojima departed; *Silent Hills* was cancelled, and the frankly stunning playable demo for that game, *P.T.*, was quietly withdrawn from the PlayStation Store. But as Konami celebrates its 50th anniversary, we're drawing a veil over its more recent years, and concentrating instead on the Japanese firm's sweet spot: that golden age that stretched from its superb arcade machines in the early 1980s to its quality console output in the 1990s.

It's somewhat difficult to remember now, with Konami's attention more focused on pachinko machines, fitness centres, and mobile apps, that it was once one of the greatest developers on the planet. Its games were consistently entertaining and, in many instances, boundary-pushing; the company gave the world the Konami code, helped lay the groundwork for the Metroidvania genre, and, thanks in no small part to Kojima, popularised the stealth-'em-up with the *Metal Gear Solid* series.

Like a lot of Japanese companies, Konami wasn't always in the games market; it rented and repaired jukeboxes back in the late 1960s, before the arcade gold rush hastened by *Space Invaders* saw its gaze switch to the new interactive medium. Its early attempts at coin-guzzling coin-ops were derivative, it's fair to say; but then Konami hit its stride in the early eighties with an astonishing selection of arcade hits that would make the company's name all over the world: road-crossing action game *Frogger*; button-bashing sports classic *Track & Field*; side-scrolling shooter *Scramble*. The latter turned out to be the starter for an even more influential main course: *Gradius*, originally intended as a sequel to *Scramble*, pretty much defined the staples of the genre for the next decade or so, from its innovative power-up system to its varied level designs to its frenetic boss battles.

RUN AND GUN

Around the mid-eighties, Konami spotted an opportunity in the rapidly growing Japanese market, and it started porting its arcade titles to the Nintendo Famicom – better known in the West as the Nintendo Entertainment System. Unlike its rival, Capcom, which initially farmed out its coin-op conversions to external developers, Konami handled its ports in-house, and the difference in quality was plain to see. Compare the somewhat ropery adaptation of Capcom's 1943 on the NES with Konami's port of *Gradius* to the same system; while the former's a jerky mess, the latter's still playable today. Konami also took Nintendo's edict – that games on its console should be different, and deeper, than the arcade games from which they were adapted – and ran with it. When Konami adapted its run-and-gun coin-op *Contra* to the NES in 1987, the changes it made were arguably for the better; certainly, when people talk about *Contra* in 2019, it's generally the console adaptation they're referring to, and not the arcade game.

By 1987, Konami was in the midst of a streak of superb games for the NES as well as arcades, and behind the scenes, it had just hired a young firebrand named Hideo Kojima. Put to work on making a military action game after an earlier project was cancelled, Kojima came up with a concept where players avoided enemy soldiers rather than blasting them with assault rifles. The resulting game – *Metal Gear* for the MSX2 – would, of course, prove to be a genre-defining classic.

That year also saw Konami launch a little game called *Castlevania* on the NES – a platformer that, with its atmospheric graphics and sprawling Gothic location, would prove to be one of the console's most enduring titles, and one taken to even greater heights in later games thanks to such designers as Koji Igarashi. That *Castlevania*'s name would be slammed awkwardly with *Metroid* to

“It was once one of the greatest developers on the planet”



^ One of the finest games on the NES, *Contra* kickstarted an entire series of run-and-gunners.

create the term Metroidvania says a lot about Konami's skill as a developer at the time; its games were worthy of comparison with the very best titles that Nintendo's R&D1 department were creating in the mid-to-late eighties.

Like all golden ages, though, Konami's couldn't last forever. Several developers who worked on the firm's great eighties games left to form Treasure (see our developer profile of that studio in issue one), and the innovation it showed in its nineties games – *Metal Gear Solid* and *Silent Hill* are arguably among the best games ever made for the original PlayStation – began to wane in the decade that followed. Konami undoubtedly carried on producing

classic games well into the 2000s, whether they were *Metal Gear* or *Silent Hill* sequels, or entries in the hugely popular *Pro Evolution Soccer* or *Dance Dance Revolution* series, but its days of innovation and defining genres were drawing to a close. The departures of such creative lights as Kojima and *Castlevania*: *Symphony of the Night* designer Koji Igarashi were by no means a death knell for Konami, but they were surely a symptom of a company whose grim working practices were already public knowledge thanks to the reports that emerged in 2015.

As Konami's 50th birthday dawns, then, we prefer to focus on the earlier bit of its long history: that brief, bright flash of creativity that created a generation of classics – clever, inventive games that we're still eagerly playing today. 🎮

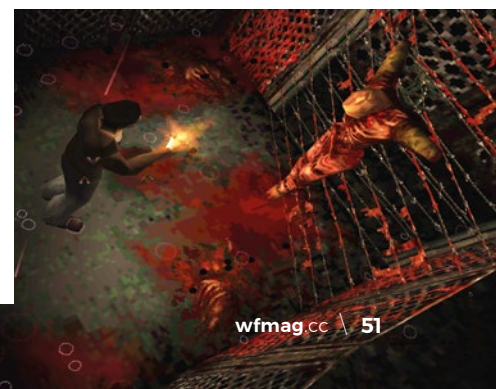


^ *Gradius* was a seminal shooter; its visuals and weapon upgrade system defined the genre for years after.

Code breakers

Up, up, down, down, left, right, left, right, B, A, start: it's a sequence of inputs so recognisable among gamers that it eventually became a meme. Although closely associated with the classic *Contra* on the NES, the Konami Code, as it's now known, actually made its first appearance two years earlier, in the 1986 console port of *Gradius*. Legend has it that programmer Kazuhisa Hashimoto found the shooter so difficult that he put in a hidden cheat code, but then forgot to take it out again before the finished game was written to cartridge and sold all over the world. The Konami code appeared in dozens of the company's console games afterwards, and still shows up in odd places today – for a recent example, try typing it into *Overwatch*'s website.

^ *Silent Hill* didn't invent the survival horror genre, but it undoubtedly forged its own tension and atmosphere.



More than Metal Gear

10 unsung Konami classics

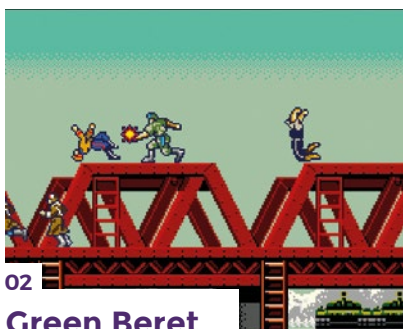
A few golden age Konami games that deserve more love



01 Shao-Lin's Road

Arcade / various computers – 1985

This martial arts action game could have garnered lasting attention had it been more widely ported to consoles. Still, *Shao-Lin's Road* is an entertaining platformer that plays like the original *Mario Bros*. The aim is to clear all the enemies on each screen by kicking them in the face; the power-ups, and some tough opponents, spice up the challenge.



02 Green Beret

Arcade / NES / various – 1985

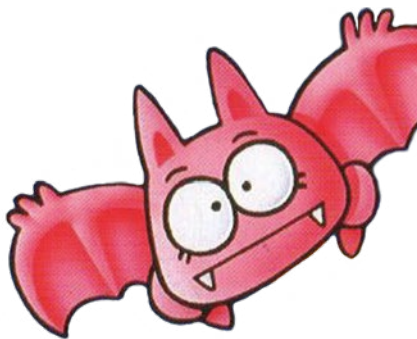
A proto-*Contra*, of sorts, *Green Beret* was a fast-paced platformer from the *Rambo* era. While Mario was jumping on Goombas and picking mushrooms, *Green Beret's* own hatted hero was jabbing at enemies with what looks like a gigantic sword. The NES version – given the punning title *Rush'n Attack* – added more variety and a toe-tapping score.



03 Jackal

Arcade / NES / various – 1986

Inspired by Capcom's 1985 top-down blaster *Commando*, *Jackal* sits players in a military jeep with a big gun strapped to the roof. The result is a thrilling action game with its own little twists: rescuing prisoners upgrades your weapons, while getting hit by a projectile while carrying said prisoners will leave them scurrying around the screen for safety, like *Sonic* rings in army outfits.



04 Aliens

Arcade – 1990

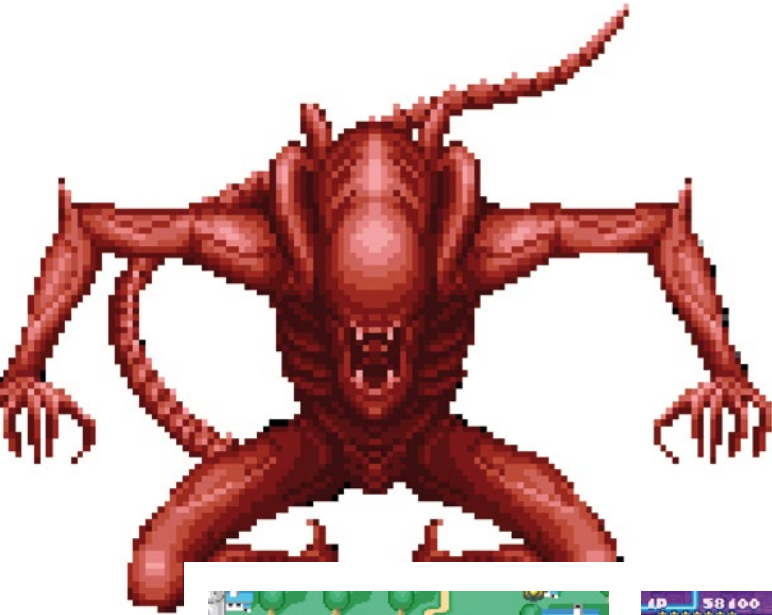
Although hardly faithful to the 1986 film (Ripley's blonde, for one thing), *Aliens* has plenty of varied action, ranging from side-scrolling shooting and brawling to up-the-screen blasting, and a pounding soundtrack. Sadly, rights issues mean we probably won't see this one get an official home release anytime soon.



05 Akumajō Special / Kid Dracula

NES (Japan only) / Game Boy – 1990 / 1993

The original was a Japan-only parody of the *Castlevania* series, featuring a grinning little vampire and his jaunt through cartoon renditions of familiar horror landscapes. Its Game Boy follow-up, released in 1993, was even better; a jolly platformer with some of the best animation on the handheld. Both are now horribly expensive.

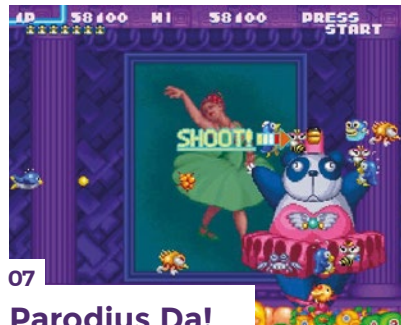


06

Detana!! TwinBee

Arcade / PC Engine / various – 1991

The original *TwinBee* was a huge hit in 1986, and offered a cute, playful spin on Namco's top-down shooter, *Xevious*. This 1991 series entry refines the formula to a captivating degree; it's vibrant, unpredictable, and far more challenging than the friendly exterior suggests. This is one of several Konami properties that deserves to be revived.



07

Parodius Da!

Arcade / SNES / various – 1991

One of a series of games that parody the *Gradius* series, *Parodius Da!* is a side-scrolling shooter steeped in Japanese humour and folklore, and tasks players with shooting down waves of penguins, pirate cats, and flying heads. Most games in the series were Japan-only; all of them are brilliant, and well worth tracking down.

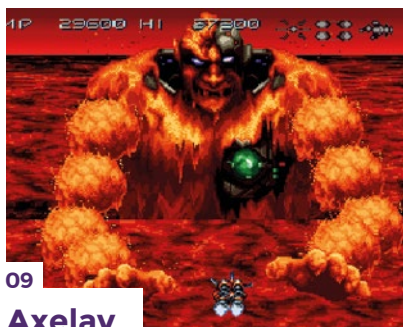


08

Sunset Riders

Arcade / Mega Drive / SNES – 1991

Mixing the early nineties popularity of four-player co-op brawlers (like Konami's own *Teenage Mutant Ninja Turtles*) with *Contra*-style shooting, *Sunset Riders* is a bullet-soaked action game with imaginative stage designs and a welcome dash of humour. 'Run to avoid getting killed' is among our favourite screen prompts of all time.

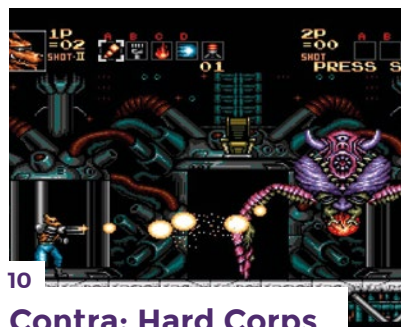


09

Axelay

SNES – 1992

Developed exclusively for the SNES, *Axelay* felt at the time like an arcade game for the home: an exciting and technically dazzling shooter that took full advantage of the console's sprite-scaling hardware, while remarkably avoiding much of the slow-down that dogged other action-heavy games on the system.



10

Contra: Hard Corps

Mega Drive – 1994

Like *Axelay*, *Contra: Hard Corps* was a demonstration of what Konami could do when it built a game around a system's hardware. A run-and-gun sequel that seemingly pushes the Mega Drive to its limit, *Contra: Hard Corps* is packed with superb animation and imaginative stage design: a giant boss that emerges from the depths of a burning city is one early highlight.



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GENRE
Action

FORMAT
PS4 (tested) /
XBO / PC

DEVELOPER
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PRICE
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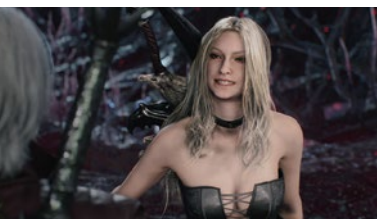
RELEASE
Out now

REVIEWED BY
Alan Wen

HIGHLIGHT

Whether you're dodging attacks or just showboating, staying airborne is the path to stylish play. Nero's aerial manoeuvres are even better thanks to a devil breaker that doubles as a makeshift hoverboard, though even more accessible is his mid-air taunt that's effectively a double-jump as he channels Tony Hawk performing a kickflip off his blade. Riding high indeed.

♥ Familiar faces return, though Lady and Trish are mostly relegated to bit parts, and some disappointingly gratuitous nudity.



Devil May Cry 5

Capcom's venerable hack-and-slash stays airborne

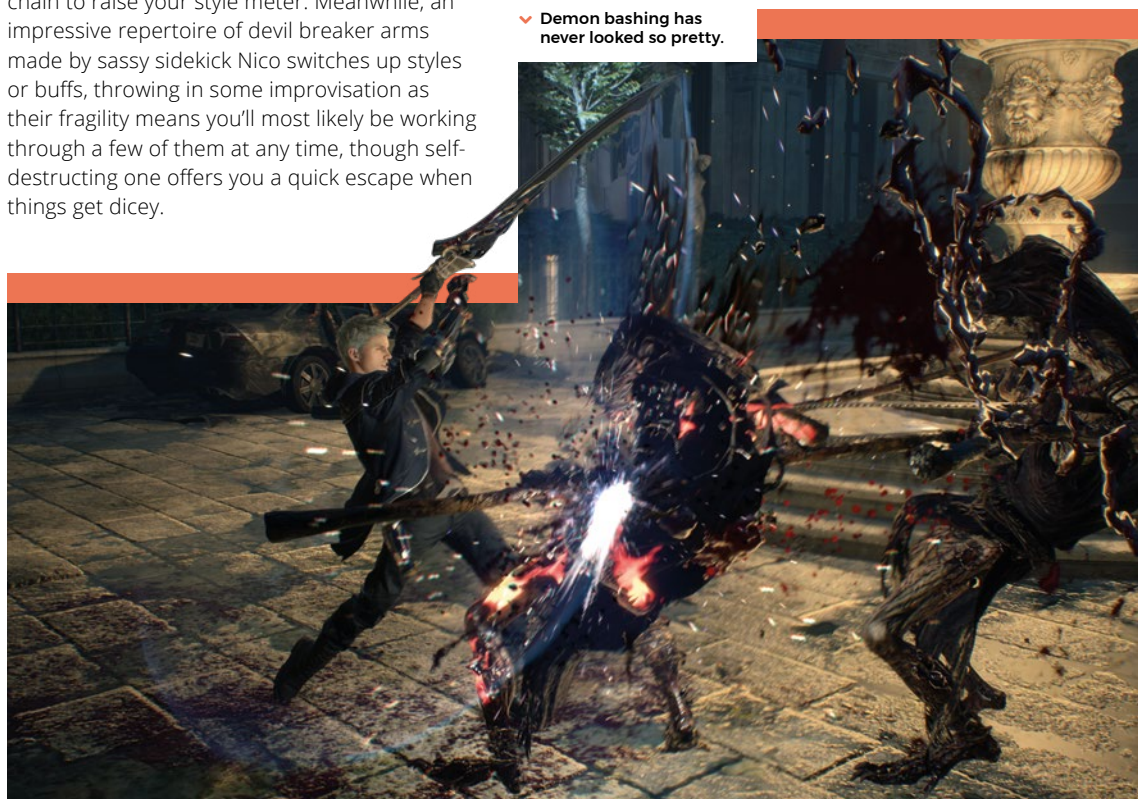
Devil May Cry 5 is a blast from the past, even if Capcom's RE Engine makes it look as stunning as any big budget heavyweight in 2019. In truth, the action genre has been something of a niche relic for years, and after a divisive reimagining of the series a few years ago, it seems director Hideaki Itsuno and his team have decided to move forward by looking backwards. Gone are the awkward environmental platforming or dragged out Metroidvania backtracking – this is a lean and linear romp that doubles down (or perhaps triples down, with three playable protagonists) on what it does best: letting us batter the hell out of demons as stylishly as possible.

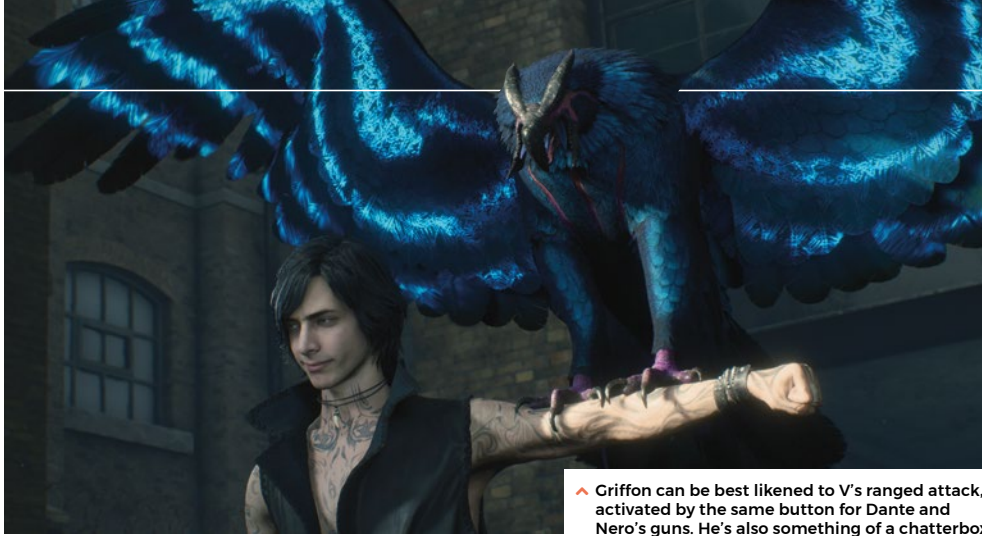
Sporting a new haircut and extra dose of swagger, Nero is the most versatile and fun character, his grapple allowing you to hook a nearby foe to easily ensure a continuing combo chain to raise your style meter. Meanwhile, an impressive repertoire of devil breaker arms made by sassy sidekick Nico switches up styles or buffs, throwing in some improvisation as their fragility means you'll most likely be working through a few of them at any time, though self-destructing one offers you a quick escape when things get dicey.

Fans will be right at home with Dante, with the four switchable styles he's had since *Devil May Cry 3* all present and correct. But even an old dog can learn new tricks, or in this case acquire outrageously new toys, from nunchucks capable of unleashing different elemental attacks to the grandstanding Cavaliere that's literally a motorcycle you can ride and slam into enemies or split in two and rev up as dual-wielding chainsaws. Given these are all switchable on the fly mid-combo, there are some dizzying options for those wanting to experiment with and master the movesets.

V is a marked difference, mainly because he actually has demonic beasts on his side to do his dirty work. It's a little weird at first, though once you get into the rhythm of it, Shadow and Griffon respectively function much like melee and ranged attacks. Building up a devil trigger gauge,

♥ Demon bashing has never looked so pretty.





▲ Griffon can be best likened to V's ranged attack, activated by the same button for Dante and Nero's guns. He's also something of a chatterbox.

you can use it to enhance each familiar's attack or summon in the hulking golem Nightmare to crash the party. But even amidst this cacophony, it's still V who delivers the final blow. With the ability to teleport to your weakened prey one after the other, it's immensely satisfying chaining these finishes to quickly boost your combo meter up to SSS. Yet because you don't have full control over your familiars, V also arguably lacks the depth of the other two – and he sees notably fewer missions, though there's narrative justification for this.

To say more of his role in this apocalyptic story would be to spoil things, though even if you're not a hardcore fan, it's all rather telegraphed early on. In any case, it's an enjoyable yarn told with sumptuous cutscenes, though its lore (which newcomers can

“A lean romp that doubles down on what it does best”

catch up with in a fairly concise 'History of DMC' featurette) is less enticing than simply seeing a fictional version of London descend into hell.

There are some neat touristy nods to look out for as you traverse through ruined analogues of Piccadilly Circus and Borough Market, while the towering demonic tree taking root could well be a satirical swipe of the Shard and its ilk. It's just a shame this is a destination you reach by the midpoint, which in turn means most of the environments then become rather samey, viney, demonic caverns. If it's any consolation, you might not notice it all too much since the focus is not on exploration but combat, where you're creating your own spectacle.

As a way to accommodate casual players or newcomers, you can freely toggle an auto-assist mode to string combos for you. While I appreciate some players might just want to mash their way to a good time, more worthwhile is a training mode called The Void where you're free to practice your moves in a number of configurations, much like a fighting game. At the risk of telling readers to 'git gud', *Devil May Cry 5* really is at its most rewarding the better you play. It's right there in how more stylish kills net

you more red orbs, which you use to purchase even more stylish moves, which in turn help you earn even more stylish kills, and keep that delicious loop of mastery and rewards running. It's precisely what makes the game worth playing again on a harder difficulty, which drops in tougher foes much earlier on, while an increased enemy count ensures more targets to keep your style meter and combo in flow.

Where the challenge occasionally missteps is with the bosses, especially one recurring adversary you're repeatedly scripted to lose against, which just feels a bit cheap if you'd been playing so adeptly otherwise. Despite being

a reasonably paced action campaign, its conclusion is also surprisingly abrupt and likely to wash over the oblivious. But when even the credits include combat

sequences, it's hard to stay disappointed, because you'll already be rewinding to go for another spin with the latest skills you've unlocked to test out on a new batch of meat puppets. Just like the addictive battle music stuck in my head, the irresistible action of *Devil May Cry 5* just urges me to keep coming back to – bang, bang – pull that devil trigger. 🍷

▼ Of all the new fancy weapons Dante gets his hands on, a demon-infused motorcycle absolutely takes the cake.



▲ Given our current state of affairs, a fictional version of London in chaos and ruins cuts a bit close to the bone.

VERDICT

Unapologetically old-school, *Devil May Cry 5* luxuriates in lean action, excessive style, and devilish good fun.

84%

HIGHLIGHT

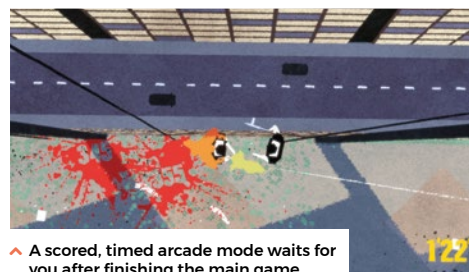
Ape Out's reactive jazz soundtrack, put together from hundreds of samples, perfectly underscores the kinetic violence. Each flurry of fists is heralded by a detonation of frenzied percussion, like the world's bloodiest slapstick routine.

Review

▲ Just a grab and a punch is enough to defend against and squish hundreds of attackers.

Ape Out

Thelonious Monkey Business



▲ A scored, timed arcade mode waits for you after finishing the main game.

Info

GENRE

Arcade/Rhythm

FORMAT

PC (tested) /
Switch / PS4 /
XBO

DEVELOPER

Gabe Cuzzillo,
Bennett Foddy,
Matt Boch

PUBLISHER

Devolver Digital

PRICE

£10.99

RELEASE

Out now

REVIEWED BY
Nic Reuben

VERDICT

Where some may find briefness and simplicity, others find perfectly paced elegance. An absolute sensory delight. Go play it. Go on.

80%

Searching for a phrase to perfectly summarise *Ape Out*, I'm torn between two internal critics. The first critic, striving to bestow due reverence on elegant design through excessively indulgent wordiness, wants to say something like: "*Ape Out* does for jazz what *Hotline Miami* did for pulsing synthwave, weaving its chosen musical genre into a sensory assault of frenetic ultra-violence and deliciously responsive discordance." The second critic, who likes to keep things a bit more direct, prefers this: "*Ape Out* lets you play as a giant primate and punch people into gooey bits while rewarding you with reactive, free-form jazz samples. More importantly, it doesn't waste a single second of your time."

Either way, here's something they can both agree on. *Ape Out* is the most energetic, cohesive, and joyfully, absurdly violent game I've played all year.

If you're familiar with Devolver labelmate and brutal neon fever dream *Hotline Miami*, you'll find yourself right at home with *Ape Out*, save a few important distinctions. You'll still rapidly traverse maze-like stages teeming with deadly, ultra-aggressive hostiles, and you'll still need to react lightning-fast to threats. As you weave your way through labs, offices, boats, and at one point, a full-on war zone, gun-toting bastards approach from every angle. *Ape Out* has a slightly delayed enemy reaction window compared to *Hotline Miami*, and here you can take three hits instead of one. The trade-off is that you can't pick up any

weapons, although your gigantic orange primate is no less dangerous for it.

When your considerable fists don't cut it, you can grab would-be attackers and use them as human shields. You can also redirect their panicked gunfire in a more advantageous direction, like directly into their colleagues, for example. *Ape Out* still revels in glorious cartoon violence, but the focus here is more on self-preservation. You could, theoretically, get through most stages without harming anyone.

If you did that, of course, you'd be missing out on the cacophony of cymbals, or the reactive jazz fits that announce each explosion of lo-fi viscera like red paint catapulted at a concrete canvas. *Ape Out* translates the chemical, guilty mania of *Hotline Miami* into

wholesome, anti-corporate carnage, like breaking Bobby Kotick's nose with a frozen bunch of fairtrade bananas.

It all looks marvellous, too. Stages are impressionist scrapbooks of static-dappled crêpe paper, but still manage to convey all the information you need to traverse them effectively. Levels are themed as tracks on jazz LPs, with each new environment featuring an 'A' and 'B' side. It's a tad on the showy side, but all adds to the sense of a cohesive piece of procedural art that invites the player to express themselves as much as it imparts the personal expression of the developers on the player. It might not be the most ambitious or truly original title I've played this year so far, but despite its obvious homage, it's the first one I'd say is essential. 🐼

"Energetic, cohesive, and joyfully, absurdly violent"

HIGHLIGHT

Flying hits the – dare I say it – high notes, with a satisfying jump and click required to set you on your Iron Man-ing way. Useful for navigation, getting out of a tight spot, or just for mucking about, it's one of those mechanics offering pure satisfaction in an otherwise unremarkable world.

Bored glance

Anthem

Laying down to sleep as they're laying down the lore

After putting a block of hours into *Anthem*, battling through (now largely fixed) connection issues and those bedding-in problems encountered with any new online-focused game, I've come away feeling... well, *nothing*. BioWare's grand return to the stage is as meek and limp an offering as you would not hope for, devoid of almost anything of real note and seemingly sent out there with the hope it won't immediately die, and some semblance of credibility – and a stable, paying playerbase – can be established. It's not a bad game, it's just a fundamentally sad and empty experience.

Taking control of a 'freelancer', you're sent into a world of cataclysmic events, deep-running conspiracies, evil big bads, and lots of scorpions to shoot. While sounding relatively exciting on paper, what it amounts to in real terms is squads of up to four freelancers banding together on missions where you have to kill all the things, get from A to B, press some switches, or collect some things. It's functional, but it's rarely in any way standout or even satisfying. *Anthem* is the kind of game you can play while half asleep, and you'll still pick up on as much as someone who's deep-diving into the whole experience.

As a former long-time freelancer, it's startling to see *Anthem's* take on the profession being one of mutual respect and relative calm. Regardless, there's a chunky batch of lore behind this 'lancing surface, and those who want to traipse through countless text logs of the world's

history and its many failings are well catered for. But none of it matters. None of it is there, driving anything forward as it did in BioWare games past. Even when you're talking to other characters, it's half-unintelligible simply because there's no context forced on the player. That's the price you pay for this being a multiplayer shooter made to drop in and out of, I guess, but it still stings – more so when it comes from the studio behind *Mass Effect* and *Dragon Age*.

With a committed group of friends, I can see *Anthem* being genuine fun. That said, there's nothing about the game that lifts it above any other online co-op shooter. *Destiny* exists. *Apex Legends* offers something a bit different. *Rainbow Six Siege* is actually rewarding and lacking in bloat. *Anthem* is gorgeous and the flying is genuinely good fun, but beyond that, there's nothing about it that's actually memorable.

So why no score? Well, just like with *Fallout 76*, *Anthem* is a game that will continue to evolve as time passes. There's little point attaching a numerical rating to something that in a few weeks, months, years, will be near-completely different to what we had in front of us now. I witnessed it myself while working on this demi-review, with a few patches popping up and improving general quality of life and disconnect issues. It's going to change and, as long as EA doesn't pull the plug too soon, I have no doubt *Anthem* will drag itself up to the grand stage of being 'quite good, actually'. For now, though, it's just prosaic and banal. 🙄

▲ Flying is easy and brain-off in the positive sense, at least.

▼ Firefights tend to be dull slogs against bullet sponges.

Info

GENRE
Multiplayer shooter

FORMAT
PS4 (tested) / XBO
/ PC

DEVELOPER
BioWare

PUBLISHER
EA

PRICE
£59.99

RELEASE
Out now

REVIEWED BY
Ian Dransfield

VERDICT

An experience devoid of passion and soul, yet one that can offer base-level satisfaction with friends in tow. Your mileage may vary.

HIGHLIGHT

Talma's a great character, with a rich personality conveyed through animations and sound FX. Most of all, she's stoic and unfazed by her situation, and struggles on without bitterness or complaint, even stopping at times to reminisce or enjoy simple pleasures.

Review

The Stillness of the Wind

The old woman who stares at goats

▲ You can wander beyond the borders of the farm, but don't expect to find much in the middle of nowhere.

▲ The visuals do a great job of imparting Talma's likeably resilient personality.

Info

GENRE
Survival

FORMAT
Switch (tested)
/ PC / iOS

DEVELOPER
Memory of
God / Lambic
Studios

PUBLISHER
Fellow
Traveller

PRICE
£9.99

RELEASE
Out now

REVIEWED BY
Jon Bailes

VERDICT

A deliberately slow game that gently prods at some interesting ideas.

60%

The *Stillness of the Wind* tells its story from the perspective of the one person who isn't involved in its events. In a world undergoing major upheaval, you get to experience isolation and unchanging routine. The result is as intriguing and contradictory as the title suggests.

You play as Talma, an old woman who's lived her entire life on a tiny goat farm in the desert. With her ascendants passed on and her siblings moved away, Talma is now alone. All you can do is direct the actions of her life – collect eggs from the hen house, milk the goats, make cheese, plant seeds, and forage for mushrooms, then return home to eat and rest each night. Your only connection to the world beyond is an old pedlar who stops by most days to barter goods and deliver letters from city-dwelling family members.

In this way, *The Stillness of the Wind* functions as a rudimentary farming simulator, but it's one that offers no sense of progress or achievement. Each chore is a major effort for the shuffling Talma, and labour-saving shortcuts are non-existent. Keeping going is all that matters, as time and resources are too scant to get ahead. There's a sad irony when you go through all the processes to make cheese, then have to trade the product for hay to keep the goats fed.

Through this grind, the game builds its tale of a woman seeing out her last days doing the only things she knows. It may make you reflect, for instance, on how quickly as players we accept such an unrewarding slog. Or, it highlights how other farming games – *Harvest Moon*, *Stardew Valley* – fetishise rural simplicity. This then

contrasts with a critique of modernisation in the wider story, leaving an unresolved tension between the horrors of civilisation and the bareness of life for those who refuse it.

The bigger tension, however, is in the play experience itself. As crucial as the slow routine is in developing these themes, it can make you wonder if it's all worthwhile. This is a game that reverses the normal metrics of assessment; even the fussy and unwieldy point-and-click controls help to express Talma's character. But the same elements also cause your attention to wane. At these points, it would help if the narrative thread was strong enough to compensate and pull you through. Unfortunately, the drip feed of news never quite does the job.

Still, it could be argued that the experience should drag at times to give the ideas room to breathe. It's yet another one of those contradictions, in a game whose positive and negative qualities are often impossible to untangle. Perhaps the only certainty is that it delivers food for thought, even if the framing leaves it a little undercooked. 🐐

▼ Once night falls, visibility outside is near zero, leaving your shack as the only refuge.



HIGHLIGHT

Steve, the security guard with acting aspirations, may look harmless, but much like the xenomorph of *Alien: Isolation* or Mr. X in *Resident Evil 2*, he's an AI adept at tracking you down when you least expect. If he wasn't so annoyingly good at his job of keeping you out of restricted areas, you'd invite him for a pint.

Review

The Occupation

Run down the clock, take back control

Pardon the overt allusions to Brexit, but when you're dealing with a UK-based game fraught with high political tensions dealing with racist rhetoric and cover-ups, it's hard not to feel reality's shadow looming. Set in the late 1980s, *The Occupation* has you playing as a journalist investigating the Bowman Carson Group over a terrorist attack that's galvanised the country's xenophobic mood. It's the eve of the government passing legislation that will make deporting immigrants easier, but will also have huge implications on everyone's civil liberties. Your job is to find out what really happened, and discover how closely the group is tied to such a controversial policy.

That's just one way of playing it, though. You could just idle about, do as you're told, and still see the story through. But then you'd be missing out on all the places to snoop around, of which there's a surprising amount packed into each building you visit, oddly staffed by the same two security officers. You'll often find multiple routes to access areas, whether by tampering with a nearby fuse box, discovering a vent shaft, or

searching desk drawers for key cards. However, interacting with objects like answering machines and computers can be extremely finicky, as is just rifling through your own briefcase and checklist, the UI seemingly an afterthought on consoles.

Compared to the immersive sims of *Prey* and *Deus Ex*, *The Occupation* is more grounded and mundane. Your enemies aren't so much the group's employees, since they're ordinary folk just doing their jobs (these folks are, by the way, well-acted, with a nice variety of accents), but time itself. As the real-time clock ticks down, you're in a rush even as you want to pore over sticky notes or move cautiously. This does make the game replayable, since it's highly unlikely you'll uncover every lead on your first playthrough, but you soon notice how everything drains your time, whether it's waiting for a safe to open or finding a keycard, only to realise you still need to rummage around for the PIN.

Most divisive is the absence of any checkpoints, meaning your only chance to fix mistakes is to quit and restart the chapter, thereby casting aside up to an hour's worth of progress. While that gets rid of save scumming, and the story still plays out even if you turn out to be an inept sleuth, you're often left feeling frustrated, especially when you're set back by either fiddly controls or AI that's far too good at detecting your presence.

The Occupation does reward perseverance, though. And in light of the UK's own political ineptitude, there's something cathartic about a game where blowing the whistle can actually make a difference to a country's direction. 🗨

Info

GENRE
Narrative adventure

FORMAT
PS4 (tested) / XBO
/ PC

DEVELOPER
White Paper Games

PUBLISHER
Humble Bundle /
Sold Out

PRICE
£19.99 (Steam / Xbox) /
£24.99 (PS4)

RELEASE
Out now

REVIEWED BY
Alan Wen

VERDICT

Fascinating, well-acted, and timely, but its best ideas end up frustrating more than they intrigue.

68%

✓ While described as a real-time adventure, the narrative is actually split into chapters, the ending of each being the only time your progress is saved.



Review

Baba Is You

▲ In most levels, certain statements are walled off and inaccessible, forcing you to work within their rules.

Baba Is You, Game Is Review, Review Is Win, Game Is Buy

Info

GENRE
Puzzle

FORMAT

Switch (tested) /
PC / Mac
/ Linux

DEVELOPER

Hempuli Oy

PUBLISHER

Hempuli Oy

PRICE

£11.29

RELEASE

Out now

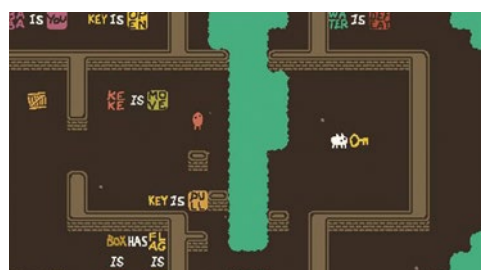
REVIEWED BY
Jon Bailes

As gamers, we die a lot. From the inexorable countdown of lives in classic arcade games, to seeing the words 'You Are Dead' plastered across the screen as we're savaged by zombies, we're used to the concept of our own demise. Yet there's something different and unsettling about the end in *Baba Is You*. Here, a false move doesn't so much kill you as delete your existence, leaving you faced with the fragility of your being and the cold indifference of the world. Fortunately, you can press the rewind button and instantly revert to your former state. But the whole game is a reminder that your presence, as something rather than nothing, is transient. The absence of any narrative or situational context only accentuates the sense of meaninglessness. Where are you? What is Baba? What is the

point of all this? None of these questions have answers.

All you can do is keep solving puzzles. Each one is formed on a single, grid-based screen, dotted with scenery, objects and words squashed into squares and lined up to create crude sentences: 'Baba is you', 'wall is stop', 'rock is push', 'flag is win'. You control whatever 'is you' – often the titular four-legged white blob – and complete a puzzle by touching the entity that 'is win'. You then return to a world map to select another puzzle, again and again, apparently heading towards some undefined goal.

The key to solving these puzzles is in the grammar that links the word-blocks, along with your ability to push them around. Rearrange them to say 'wall is push' and you can now shove walls around the screen. Make the sentence 'wall is rock' and watch the walls turn into rocks. In this ultra logocentric world, everything from skulls, bugs, and rockets to lava and water lack physical attributes unless they're literally spelled out, like a game of Simon Says where the entire substance of the universe is at stake. It's a brilliant reversal of puzzle game conventions that expect objects to behave consistently. Here, nothing is stable except the syntactic rules that connect variables and predicates into short logic statements, to shift and stack with endlessly flexible results.



➤ Baba is sometimes joined by other characters; most often a bipedal red blob named Keke.



Some elements still ground the game in familiar modes of spatial awareness and grid-based thinking. In particular, as the words themselves generally function as solid objects, the ancient laws of block pushing apply. But beyond that basic operation, there's an incredible variety in what you're asked to do. It's impossible to explain how far *Baba Is You* develops its central concept, and would be unfair to spoil it. Suffice it to say that it's less a mere game mechanic and more a system for creating puzzles, and has an entire language at its disposal.

This doesn't mean, however, that these puzzles are sandboxes that free you to imagine your own solutions. After a gentle and playful start, the focus in *Baba Is You* turns to precisely designed layouts with specific requirements that can be hard to decipher. While everything follows a strict logic, the abstract ideas and departure from natural physics make complex lateral thinking essential. And because the system offers so many possibilities and the game provides no hints, it's not always immediately clear what kind of puzzle you're facing. Even fundamental aspects you usually rely on – your identity and goal – are subject to change, so in every screen, the challenge has to be figured out anew.

As daunting as this sounds, the branching structure means you'll generally have multiple routes available, and you don't have to complete all the puzzles in an area to progress. Whenever you're stumped, you go elsewhere for a while, then return later with a fresh perspective, until eventually, something clicks. There's also an extreme clarity about *Baba Is You's* design. Because puzzles fit on a single screen, every rule and object is visible at all times. There's never a hidden trick to uncover, or secret path you can't see. All the pieces are right there in front of you, and often, when you do find a solution, it's much simpler than it first appeared.

"Where are you? What is Baba? What is the point of all this?"



While some solutions are deceptively simple, others really are as tortuously complex as they look.



But make no mistake, you will get stuck. While sometimes you can knock off a string of puzzles in quick succession, other times you'll make little progress in an hour, especially as you push into later areas. And because it's all so clearly laid out, you can only blame your own inadequacy. Puzzle games of this kind walk a fine line between making you feel clever and making you feel stupid, and when you can't understand the answer that's staring right at you, or you think you've finally figured out a solution only to find it still doesn't quite work, it can seem that *Baba Is You* is showing off at your expense.

Combined with the sparse, monotone graphics, the difficulty and relentlessness of *Baba Is You's* demands may begin to feel oppressive. At times it's like a kind of purgatory, where each puzzle solved is simply replaced by an even more devious one. But it's a purgatory you gladly return to, because the system is so elegant and the puzzles so beautifully designed. As for what *Baba Is You* says about existence – perhaps it is that, yes, it's short, precarious, and pointless, but if you rise to the challenge it can all seem worthwhile.

HIGHLIGHT

There can only be one highlight in this sort of puzzle game: your own moments of inspiration that come after struggling with a problem for some time. Expect to slap yourself for missing the obvious, and liberally indulge in fist pumps when you fashion a particularly intricate solution.

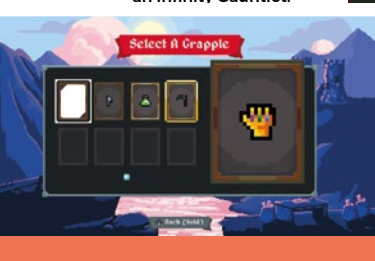
VERDICT

Original, ingenious, and ample. *Baba Is You* requires patience but is never less than superb.

88%



✓ Grapples are used to pull chests down faster, and as seen above, can be anything from scythes to an Infinity Gauntlet.



Review

HIGHLIGHT

Collecting stuff is always fun, but even more so with *Treasure Stack*. One game you'll be playing as a lowly peasant, and then a few games later, you're playing as a ninja with the Infinity Gauntlet strapped to your grappling hand. If that's not the coolest, I don't know what is.

▲ Reacting fast is mandatory in *Treasure Stack*. Thankfully, you are able to see which chests are coming, but as the game goes on, they'll start dropping faster.

Treasure Stack

Treasure your time with *Treasure Stack* – it's worth it

Info

GENRE
Puzzle

FORMAT
Switch (tested)
/ XBO / PC

DEVELOPER
Pixelakes

PUBLISHER
Pixelakes

PRICE
£15.79

RELEASE
Out now

REVIEWED BY
Aimee Hart

VERDICT

Treasure Stack is a fun falling-block puzzler that'll have your blood pressure through the roof, but it'll all be worth it once you hit that sweet 10x combo. No, I'm not kidding.

71%

Treasure Stack is the kind of falling-block puzzle game that will make warehouse workers shudder. The main objective seems like a relatively straightforward one: match the coloured treasure chests with the same coloured key, and stop them from stacking right to the top. Simple. Only it isn't, as for some reason or other, demon boxes make your life a misery – stack too many of these up and it's game over.

With *Treasure Stack*, sessions can take as little as two minutes if you're not the best at it – which I'm not, by the way – or as long as ten minutes if you're a master – which my friends are, just so you know. With games being that hit-and-miss, it's sometimes hard to work out just how many of them you can squeeze into your ten-minute break at work.

But what really makes *Treasure Stack* different is how much it calls out to my inner adventurer.

The platforming element of the game, jumping up and down on different chests, and wriggling around in the small space, is what truly makes it stand out against other standard match three puzzlers.

Pulling treasure chests down faster with my handy grapple and jumping onto platforms to match them up, it feels as though I'm contributing in a way far more significant than

just slotting same-coloured tiles together until they vanish. It's fun and energetic, giving you much more involvement and agency than games like *Bejeweled* or *Puyo Puyo Tetris* do.

Multiplayer adds an enjoyably competitive reason to play. Succeeding against your rivals, you slowly climb the ranks to higher, wittily named levels. Because who doesn't want to brag that they've passed the rank of 'peasant one' and right into the greater, less-smelly rank of 'peasant two'? Well, unless you don't win, of course. Ahem.

While punishing non-winners, it isn't to the point that the game doesn't want you to play. In a world full of *Tetris* 99s and so many other puzzlers, *Treasure Stack* is all too aware of how quickly its players could just put the game down and

never return. Step forward customisation. The challenge of multiplayer is fun, but the constant rewards for playing keeps you coming back for more. Yes, I may be dying at the speed of light, but I'm not being punished for it, and I get nifty little gadgets and characters to show for my repeated efforts.

Really, this is a *treasure* to play. Even when you're silently screaming as futile attempts to stack the right chest and key together go awry once more, *Treasure Stack* maintains an appeal that keeps you going back for what you honestly believe to be just one more game. 🗡️

"It gives you much more agency than the likes of *Bejeweled*"



RIIIIIIIIDGE (“Rage”) RACERRRRRRR!

The best? No. But *Rage Racer* still has something, 23 years later

I found myself wondering just what had happened to the *Ridge Racer* series – once atop the world, its credibility had been on the wane (and took a massive hit with 2012’s *Unbounded*), before being forgotten outside of the odd iOS/Android game. Why would something once so intrinsically linked to gaming die so spectacularly? Surely there’s rhyme to this reason? Surely, I posited, those earlier games can’t have actually been much cop, and we were all victim of some form of Namco-based mind control.

Seeing as I’ve been playing *Rage Racer*, the third release in the original PlayStation series, for the past few weeks now, in space year 2019, I’d have to say the posit I posited was really rather wrong. The original is the best known, of course, and *Ridge Racer Type 4* is the best on Sony’s first console – but for me, it’s *Rage Racer* that still manages to hold my attention after all this time.

That has to mainly be down to the progression system, which is as satisfying now as it’s ever been. You start with a bad car, you earn money and can either do it up, or buy a newer, better car. That’s the circle of compulsion, and it still works perfectly. Adding to the sense of progression is the fact your cars change as you upgrade them, resulting in a VW Beetle-like having an engine way too big for it erupting from its ample derriere.

The racing itself is going to be a tough one for anyone who a) has never played a mid-nineties arcade-focused racing game, or b) expects any form of realism, but soon enough I found myself

back in the flow. It’s not about racing lines and careful acceleration; *Rage Racer* is about keeping your foot plastered to the floor, spinning almost a full 360 degrees around any corner, and making your way up the rankings at a steady pace.

It’s not even *racing*, specifically, with the limitations of the game readily apparent to anyone paying attention. Rather than a full grid of racers to overtake (and be overtaken by), *Rage Racer* fudges the numbers a bit... OK, so I can’t claim any in-depth technical knowledge here, but it does seem very much like you’ve only ever one or two cars coming up to overtake at any one point, and there’s only ever one car behind ready to slip past if you make a mistake.

In that respect it actually plays out – bear with me – like *Frogger*; pushing forward a space or two, heading back one, pushing forward one, and so on. It’s not racing. Not really. But it is a lot of fun – simplistic, brain-off fun with that focus on customisation

and linear bad-car-to-good-car progression we can all get on board with.

I can name plenty of better games in the overall *Ridge Racer* series without much effort, sure. But for right now, it seems *Rage Racer* is just what I need: simple, straightforward racing fun with enough of a hook (that being the dream of owning a small car with a fat engine bursting out of its boot) to keep me going. And if that simple formula can withstand the countless racing-based tests of gaming time, maybe it’s a cue for Namco to go back to the well once more. I wouldn’t say no. 🐸

“You start with a bad car, you earn money and can either do it up, or buy a newer, better car”

Now playing
Rage Racer

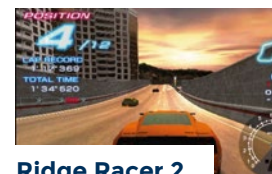
Wireframe Recommends



Ridge Racer Revolution

PS1

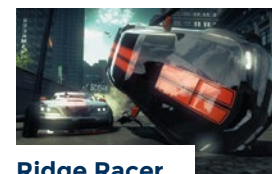
The second on PlayStation, *Revolution* was the more fully-fledged game compared to the original. Link-up play was the real draw, allowing one-on-one races in this arcade drifting paradise.



Ridge Racer 2

PSP

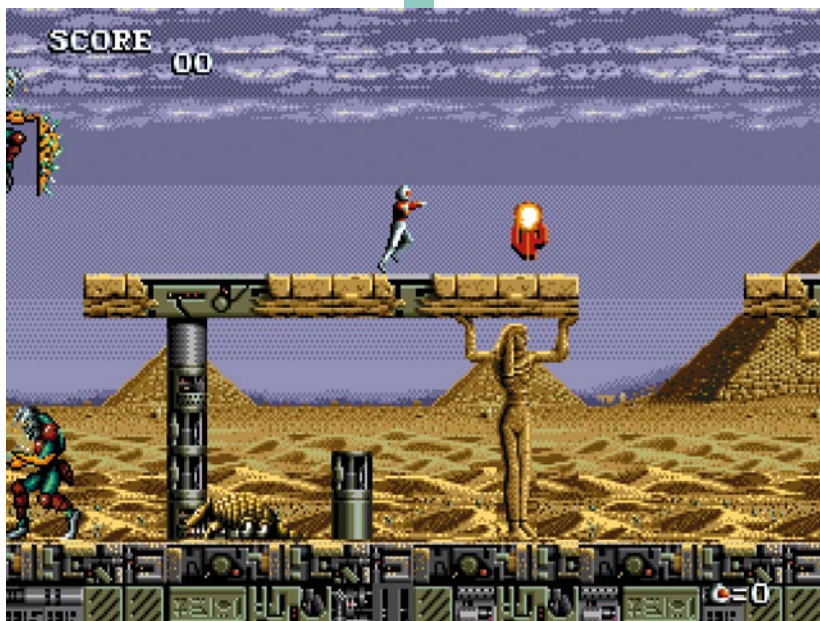
Acting both as a best-of for the PlayStation series and a fantastic arcade racer in its own right, *Ridge Racer 2* was – and is – superb. Chaining together nitrous combos will never not be fun.



Ridge Racer Unbounded

XBOX 360, PS3, PC

‘Recommended’ only because you need to see it to believe it. Derived quite heavily from *Burnout*, *Unbounded* didn’t know what it wanted to be and – essentially – killed the series.



Atomic Runner

Auto-scrolling turned Atomic Runner into a one-of-a-kind run and gun game

DATA EAST / 1988 / ARCADE, SEGA MEGA DRIVE, X68000

It's often said that constraints are good for creativity, and I'd argue that it's *Atomic Runner's* constraints on the player that make it such an absorbing action game. It might look like yet another platform-shooter at first glance, but what distances *Atomic Runner* from the likes of, say, Konami's *Contra* (which came out just one year earlier) is that it auto scrolls. The player can move back and forth across the screen, and make athletic leaps into the air, but the protagonist can't fight against the game's fast and inexorable push from left to right.

In practice, this makes *Atomic Runner* as much like a horizontally-scrolling shoot-'em-up – like *Gradius* – as a platformer, since the pacing of enemy waves and other obstacles is under the game's control and not the player's.

But where *Gradius* put you in the seat of a ship that could zip freely around the screen, *Atomic Runner* also pits you against the game's approximation of gravity: with chasms and deadly objects constantly rolling onto the screen, you're required to avoid hazards from both the air and the ground, meaning death is seldom more than a pixel or so away. Couple this with a control system that takes practice to truly get to grips with, and you'd be forgiven for thinking that *Atomic Runner's* an exercise in hair-pulling frustration.

Again, though, Data East's oddball design decisions are what make *Atomic Runner* so unique. Like learning to ride a unicycle, mastering *Atomic Runner's* brand of running and gunning is tricky but curiously rewarding; there's a satisfying flow to the game once you click into it, and after a while, what once seemed like unfair constraints begin to feel like useful allies. The protagonist, named Chelnov, can perform huge leaps, and bounce on enemies' heads to destroy them, like *Super Mario*; he can fire in multiple directions, even when spinning through the air.

At the time of its release, *Atomic Runner* was somewhat controversial for its evocation of the Chernobyl nuclear disaster (its hero gains his abilities during a power station meltdown), but it deserves to be remembered as more

“Like learning to ride a unicycle, mastering *Atomic Runner* is tricky but curiously rewarding”

than an arcade obscurity with a bad-taste backstory. The 1992 Sega Mega Drive port, in particular, is stunning, with superior graphics and sound to the original coin-op, and an adjustable difficulty that lets new players ease their way into the action. Between rounds, the legend ‘Let's go go’ flashes up on the screen – three words that neatly sum up the game's relentless pace and manic charm. Auto-scrolling turns what might have been a passable action game into something else entirely: tough, intense, and absolutely irresistible. 🎮

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